American Druggist and Pharmaceutical Record.

A JOURNAL OF PRACTICAL PHARMACY.

VOL. XXIV. No. 4. NEW YORK, JANUARY 25, 1894. WHOLE No. 283.

AMERICAN DRUGGIST PUBLISHING COMPANY,

37 College Place, New York.

A. R. ELLIOTT, President.

— SUBSCRIPTION PRICE. —

For the United States and Canada, -	$2.00
If paid in advance direct to this office,	1.50
For Foreign Countries, - - - - -	2.50
Single Copies, - - - - - - - -	15

The AMERICAN DRUGGIST AND PHARMACEUTICAL RECORD is issued on Thursday of each week. Changes of advertisements and all copy for publication should be received before Tuesday of each week.

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PHARMACISTS AND LIQUOR DEALERS.

SOME time ago we commented in terms of disapproval on the prostitution of pharmacy by liquor dealers in Iowa showing that the Iowa prohibition law has accomplished little toward the restriction of the traffic in intoxicants, beyond changing slightly the conditions under which the traffic is conducted. We find an echo of this in the current number of the London *Lancet*, where in a reference to E. L. FANSHAWE'S account of the working of the prohibition laws in several States, it is stated that very special prominence is given to the part played by apothecaries and druggists. "Thus in Des Moines, Iowa," to quote from the *Lancet* editorial, "the principal hotel has a drug store attached to it which serves all the practical purposes of a cellar. When a guest orders liquor in the public dining-room it is served as a matter of course, but it comes from the drug store and is entered in his bill as a 'pharmacy.' Even in Portland, the port and capital of Maine, where the law is enforced with considerable vigor, the authorities sell it largely as 'medicine' at the City Agency, and to the public profit. A small throng of patients commonly pass the doors and wait their turn to be served. 'Obliging apothecaries' are to be found almost everywhere, as well as 'practitioners' who will 'prescribe' whisky from a bottle to ten gallons to be taken as required. As regards the city authorities who treat alcohol as a drug and the apothecaries we feel no special responsibility. The apothecaries of the United States, unlike ours, are pharmacists only, not medical practitioners. They are generally, we believe, a respectable body of men; but we must leave them to the pharmaceutical authorities of their own country."

The pharmacists of Iowa cannot afford to neglect the repeated allusions to the anomalous conditions now obtaining in that State. Action, and action of a positive nature, should be at once taken by the State Commissioners of Pharmacy, who are regarded as the persons responsible for the existence of the saloon pharmacies. It is not possible that investigations begun by them and reported to the civil authorities can be ignored by the latter, and it is to be hoped that some action will be taken soon.

Pharmacy, like a certain well known virtue, is often made to cover a multitude of sins, and so we find in other States besides Iowa that intoxicating liquors are dispensed without license from the State with the barest attempt at secrecy using "medicine" as a shield. The really responsible parties are of course the civil authorities, but these place so much trust in the good faith of pharmacists that it behooves State boards and other organized bodies to co-operate with them and aid in detecting offenders against the State laws bearing on the sale of intoxicating liquors.

TUBERCULOSIS CONTAGIOUS.

THE theory that tuberculosis is contagious was advanced some years ago, and this theory has gradually gained ground despite the apparently contradictory facts which have been noted as bearing upon it. It is interesting to note, therefore, that after a careful study of the subject, the Health Department of the City of New York have officially announced their adherence to this theory, thus coming into line with many of the most advanced students of epidemiology. So clearly and succinctly are these conclusions summarized by Dr. Hermann M. Biggs, the Chief Inspector of Pathology of the Department, that we reproduce the summary in a condensed form below:

The disease known as tuberculosis may affect any organ or tissue of the body. When it affects the lungs it is called pulmonary tuberculosis, or consumption. In this form it causes about one-fourth of all deaths occurring in the human being during adult life, and more than one-half of the entire adult population at some time in life acquire it. It has been proved beyond a doubt that a living germ called the tubercle bacillus is the cause and the only cause of tuberculosis. When these germs find their way into the body they may multiply there, if favorable conditions for their growth exist, and produce small new growths or nodules (tubercles) which tend to soften. The discharges from these softened tubercles containing the living germs are thrown off from the body. In pulmonary tuberculosis the expectoration contains the germs, often in enormous numbers. It has been shown that many millions of tubercle bacilli may be discharged, under certain conditions, in the course of twenty-four hours by one person suffering from tuberculosis. The germs thus thrown off do not grow outside the living human or animal body except under artificial conditions, but they may retain their vitality and virulence for long periods, even when thoroughly dried. As tuberculosis can only result from the action of these germs, it follows from what has been said that when the disease is acquired it must result from receiving into the body the living germs that have come from some other human being or animal affected with the disease; in other words, it can not occur except by *direct communication* from some other individual or animal suffering from tuberculosis.

While the meat and milk of tubercular cattle may be important sources of danger, yet the disease is acquired, as a rule, through its communication directly from man to man. The expectoration of tubercular persons frequently lodges in places where it afterward dries, as on handkerchiefs, clothing, carpets, floors, the streets, and so on. After drying, it is very apt, in one way or another, to become pulverized and float in the air as dust. Pulmonary tuberculosis or consumption (the most common form of the disease) is usually produced by breathing air in which the living germs are suspended as dust. It has been shown experimentally that dust collected from the most varied points in hospital wards, asylums, prisons hotel bedrooms, private houses, etc., where consumptive patients have lived, is capable of producing the disease. Such dust may retain for weeks and even for months its power of causing the disease, and persons inhaling the air in which this dust is suspended breathe

in the living germs. It should, however, be distinctly understood that the breath of tubercular patients and the moist sputum received in proper cups are not elements of danger, but only the dried and pulverized sputum. The breath and moist sputum are free from danger because the germs are not dislodged from moist surfaces by currents of air. If all discharges were destroyed at the time of their exit, by far the greatest danger of communication from man to man would be removed.

It is a well-known fact that some persons, and especially the members of some families, are particularly liable to tuberculosis. So marked and so frequent is the development of the disease in certain families that the affection has long been considered hereditary. We now know that the disease itself is very rarely hereditary, but that there is inherited a liability to the disease which renders the individual an easier prey to the living germs when once they have gained an entrance.

Where the parents are affected with tuberculosis the children, from the earliest moments of life, are exposed to the disease under the most favorable conditions for its transmission, for not only is the dust of the house likely to contain the bacilli, but the relations also between parents and children, especially between mother and child, are of that close and intimate nature especially favorable for transmission by direct contact. The frequent occurrence of several cases of pulmonary tuberculosis in a family is, then, not to be explained on the supposition that the disease itself has been inherited, but that it has been produced after birth by transmission directly from some other individual.

It follows from what has been said that tuberculosis is a communicable—that is, a contagious germ—disease, and is distinctly preventable. The means which are most certain to prevent its spread from one individual to another are those of scrupulous cleanliness regarding the sputum. These means are largely within the control of the affected individual. It should be constantly kept in mind that it is the sputum and the sputum alone which is commonly the important agent in its transmission.

It is furthermore to be remembered that consumption is not always, or even generally, as was formerly supposed, a fatal disease, but that in a very large proportion of cases, if recognized early, it is a distinctly curable affection. An individual who is well on the road to recovery may, if he does not with the greatest care destroy his sputum, diminish by self-inoculation his chances of recovery.

Based upon these premises it is recommended that every possible effort be made to educate the public up to the fact that every tubercular person may be a source of actual danger to his associates, and his own chances of recovery be diminished, if the discharges from the lungs are not immediately destroyed or rendered harmless. It is also recommended that the city departments treat the disease as to care, isolation, etc., just as every other contagious disease is treated, and the hope expressed that if this be done that some of that ample measure of success may be won which has followed the efforts of the New York City Board of Health with management of other contagious diseases.

The following facts should be especially emphasized:

First, tuberculosis is a contagious disease and is distinctly preventable.

Second, it is acquired by the direct transmission of the tubercle bacilli from the sick to the well, usually by means of the dried and pulverized sputum floating as dust in the air.

Third, it can be largely prevented by simple and easily applied measures of cleanliness and disinfection.

THE WILSON TARIFF BILL.

"SCHEDULE A" of the Wilson Tariff bill received attention at the hands of the Drug Trade Section of the New York Board of Trade and Transportation, at their annual meeting held in the rooms of the Fulton Club, this city, on Thursday, January 18. The Committee on Legislation, to whom the matter was entrusted, presented a report that evinced the care with which the various items included in the proposed bill were scrutinizd. The conservative spirit of the members composing the Committee on Legislation was evidently opposed to the sweeping reductions proposed by the Committee of Ways and Means at Washington, as many changes were suggested. Among other items of duty which the Drug Trade Section would like to see amended are: Boric acid from the free list to the dutiable list at 3 cents per pound, and tannic acid to pay a duty of 60 cents per pound instead of 35 cents; alcoholic perfumery to be raised from 25 per cent. ad valorem to 50 per cent. Ammonium carbonate should remain on the dutiable list at the present rate of 1¾ cents per pound, and also refined camphor 4 cents per pound, the present rate. A duty of 40 cents per pound instead of 35 cents as proposed is suggested on sulphuric ether, while on castor oil they urge a duty of 60 cents per gallon, which is a considerable reduction, instead of the duty of 35 cents per gallon proposed. On cod liver oil a specific duty of 15 cents per gallon is recommended instead of the proposed ad valorem duty of 20 per cent. Exception was of course taken to the general replacement of specific duties with ad valorem rates for reasons which are now very generally known by the trade and which the committee express as follows:

The articles being imported in comparatively small quantities, the argument about false weighing does not apply, and the experience of many years proves that specific duties favor the importation of purer and higher grades of drugs, chemicals and medicinal preparations, which is certainly in the interest of public health, while ad valorem duties favor the unscrupulous importer, and induce false invoicing by dishonest parties.

The election of officers was proceeded with at this meeting and resulted in the selection of the following: Chairman, THOS. F. MAIN; vice-chairman, JOHN M. PETERS; secretary, WM. S. SCHIEFFELIN, and treasurer, W. D. FARIS.

THE INTERNAL REVENUE TAX.

THE latest phase of the internal revenue tariff is shown in the report of the majority of the Way and Means Committee of the House of Representatives which was made public on Monday of this week.

The most interesting feature of the bill is that which relates to the tax on spirits. The new bill proposes to raise the tax on alcohol from the present rate of ninety cents per proof gallon to one dollar. As it now stands the bill is to go into effect the second calendar month after the passage of the act, and the higher rate is to be paid on all spirits in bond at that date. That the committee would ultimately recommend an increase was prophesied some months or more since in our last editorial upon this subject.

The original proposition, which was to double the tax, making it one dollar and eighty cents instead of ninety cents per gallon, met with the most severe criticism from disinterested business men all over the country. The grounds for that opposition, as we have already outlined, are: First, that it would impose an additional and unfair burden upon all those branches of the arts and manufactures in which alcohol is consumed; and second, that it would be nearly three years before the government would receive any of the increased taxation. The change to an increase of ten cents per gallon only puts a somewhat different phase upon the matter so far as the probable receipts to the government from the increased tax are concerned. Where a difference of ninety cents per gallon was involved it could safely be predicted that almost if not quite every gallon of spirit in bond would be immediately taken out at the lower rate of tax, and that the holders would then add on the amount of the increase or at least a large portion of the increase when selling it. As the amount of spirits of all kinds in bond are sufficient to last for over two years it follows that until this was used up the government would receive the higher tax on but a merely nominal quantity of spirits. The difference between the old tax and the new, amounting in the aggregate to something like $90,000,000 on the amount of spirits in bond at the present date, would go then not into the treasury but into the pockets of the manipulators and distillers controlling the stock.

The injustice of charging a high tax on an article of prime importance in manufactures as is alcohol remains just as great so far as principle is concerned, whether the tax is raised ten cents or ninety cents or not at all. There is no claim made that medicine should be taxed, but alcohol used in the arts is taxed merely because if it were used as a beverage it is a luxury. There certainly must be some way by which we can have free alcohol for medicine and the arts without having free as a beverage. Other countries have found methods of obtaining it. Why cannot we of the United States do so?

Written for the American Druggist and Pharmaceutical Record.

PRACTICAL PHARMACEUTICAL NOTES.

By Galen Jr.

THE CARE OF WATERS.

When the new Pharmacopœia adopted the imported rose water and orange flower water it did, in my estimation, a wise thing. But the directions given for keeping are very faulty. It is perfectly proper to keep them in dark cool places. But unless they are allowed to air occasionally they will smell moldy and have little resemblance of the flowers from which made. The writer has now two demijohns of imported rose water from the well-known house of Schimmel, in Leipsic, Germany.

When received and opened they did not smell much like rose water, but after three or four days airing they become once more the elegant rose water that they are. It is my practice to allow them to remain open at least one or two days in a month. It does away entirely with the musty odor and brings out strongly the delicate flavor of the rose.

This is not only true of rose water but of many others and distilled water will keep much better in a cool place with a piece of cheese cloth tied over the mouth of the demijohn than if tightly corked.

Some years ago the writer had two barrels of natural spring water from one of the most popular springs. One was left open with a cloth over bung to keep dust out; the other was closed. After laying in cellar all Winter side by side, in the Spring the one left open was found in perfect condition, while the other was spoiled.

SAOP LINIMENT THAT WILL NOT PRECIPITATE.

Some time ago George Beringer recommended a neutral oleate of sodium made by neutralizing oleic acid with sodium hydrate as much superior to soap (white castile) in making oleates. In this formula he has given the pharmacist not only an excellent means of preparing oleates but also a ready means of preparing camphorated soap liniment, a soap that will remain in solution in the solvent and not congeal. I have already suggested the use of a soap made in this manner for the purpose, but did not have in mind the formula above. By using the formula as given by Mr. Beringer in his article in the preparation of oleates and not diluting the resultant soap, but placing it in a suitably shaped vessel to become cool, a hard soap results which can be used either for making soap liniment or solution of oleate sodium, and is perfect for either.

The formula for such soap is as follows:

Oleic acid	1,000 grs.
Caustic soda	160 grs.
Water	2 ozs.

Dissolve the soda in the water and mix gradually, with constant stirring, heat moderately, and when saponification is complete set aside to cool.

This forms a hard soap, and if poured into frames can be made into bars. If it is desired exactly neutral the alkali must be added gradually, and only enough added so that a little of the soap dissolved in alcohol and a few drops of solution of phenolphthalein added the color should remain a *very light pink*. This is not much more trouble to make than the first and is much better, especially for making oleates.

LANOLINE GLYCERITE.

During this season of the year there is always a demand for glycerin preparations or preparations of similar kind. One of the best of these can be made by taking

Glycerate of starch, U. S. P.	3 ozs.
Lanoline	1 oz.

Rub the lanoline in a small portion of glycerate until thoroughly mixed, then add the glycerate gradually, rubbing thoroughly after each addition.

By being careful an elegant emolient is obtained that can be flavored to suit.

STEARIN JELLY.

By using the following an excellent preparation is obtained:

Stearic acid	50 grains
Carbonate of sodium	30 grains
Glycerin	30 ounces
Mucilage of quince seed.	

Dissolve the sodium in the glycerate and add stearic acid cut in fine pieces, heat gradually. When effervescence ceases add 3 ounces of mucilage of quince seed (1 ounce to 1 pint), and mix thoroughly. This is also an excellent preparation.

COUGH MIXTURE.

One of the most excellent preparations for a cough which the writer has ever seen can be made by the following recipe:

Fluid extract of wild cherry	6 fl. ounces
Fluid extract of white pine	6 fl. ounces
Fluid extract of cubebs	3 fl. ounces
Fluid extract of ipecac	1 fl. ounce
Chloroform	3 drachms
Morphine acetate	24 grains
Ammonium chloride	2¼ ounces
Sugar	7 pounds
Water	4 pints
Syrup tolu, a sufficient quantity.	
Acetic acid, a sufficient quantity.	

Add the fluid extracts to water and agitate thoroughly; allow to stand for an hour or more, and filter clear, adding to contents of filter 2¼ ounces ammonia chloride. The ammonia will all be dissolved by the liquid in passsing through. Then dissolve in the filtrate 7 pounds sugar by cold percolation, and to this add 3 drachms chloroform; agitate thoroughly until admixture is perfect. To the syrup add 24 grains of morphine acetate previously dissolved in a small amount of water, and acetic acid, q. s. to make clear. Make up to 1 gallon by adding syrup tolu of the new Pharmacopœia.

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"LET US REASON TOGETHER."

By William B. Thompson.

In the course of a published article advocating the "Training of the Shop," in a previous issue of this journal for the education of apothecaries, reference was made, in demonstrating the truth of argument, to the histories of typical pharmacists,– men whose whole and sole education was the outcome of a practical experience in the precincts of the shop. These rose to fame and honor—yet, the years of their novitiate gave no evidence of genius, and the circumstances which environed them served not to discourage but to stimulate their successful striving.

It is, perhaps, needless to say that one of these was Scheele, the Swedish apothecary. Yet with the somewhat minute facts of the life and history of Scheele, unmistakably showing that his avocation was that of an apothecary, a most esteemed contemporary and able writer on the subject of education of pharmacists resists the force of this example, and declares that Scheele is not to be ranked with apothecaries but with chemists! "His (Scheele's) fame is that of a chemist, not a pharmacist." The advocates of shop-training might well be satisfied with this construction and conclude that if the mere occupation of the apothecary will develop the genius of such a chemist, then truly, is the education of a shop to be preferred above all other means. But had Scheele never become a pharmacist is it likely he would ever have become a chemist? The declaration above referred to, however, coming from responsible source through the columns of a widely read journal is calculated to cast some shadow upon the pharmaceutic escutcheon, as well as upon the pride and ambition of a struggling tyro, in the confines of the shop. He should rather be encouraged to emulate his bright exemplar and to link another name to fame and pharmacy.

The history of the sciences is ample in showing how close and intimate is the connection between pharmacy and chemistry. Then why try to disassociate them? Indeed it is quite possible to prove that the compounding of certain medicaments was the foundation of both chemistry and physic, for it was the means of directing attention (Scheele's case precisely) to the character of the various products of nature. To prove that the art of compounding was not to be taught by ephemeral or pre-arranged methods we may quote the words of an Arabian writer of the eighth century, one "Serapion," who says, "For him who wishes to compound medicines *as he ought*, it is necessary that he should understand their virtues *profoundly*."

We have referred above to the life and history of Scheele, and the more we ponder the greater the amazement becomes for the man, and for the opportunities which a practical pursuit of pharmacy presents to the mind of inquiry, and to the investigator. Observation would seem to point to the fact that a just conception of what pharmacy includes as a science is best impressed upon the mind and understanding by a direct and constant familiarity. The chosen steps of approach being across the threshold, and *ab-initio*. This is strikingly impressed in the narrative of Scheele's history. The family necessities compelled the parent to place his boy at an occupation at the age of 14. An acquaintance existing between the father and an apothecary of the town, this business was chosen and the youth entered his apprenticeship. His first impression was that of wonder, curiosity became next aroused, and investigation followed. The products of the three kingdoms of nature were stored away in the receptacles of that shop!—and the rest is a matter of familiar history: knowledge was enriched; the mysteries of science were unfolded; elements were placed at command, and the hidden forces of nature revealed; all at the hands of an apothecary's apprentice in the obscure shop of an inland village.

No collegiate walls ever encompassed him; no theoretical instruction was bestowed; yet note what boy and man became. How much more learned and eminent he might have become is not to the present purpose to surmise. What he did was accomplished with the means at command. What he did can again be done with advantages greatly multiplied, but the niche of fame occupied by Scheele is a place of honor so completely filled by the achievements of the man that no additional luster can be shed upon that name.

When the question is asked whether the

American drug stores of to-day are the most favorable nurseries for scientific men, we might say that the opportunities of the drug store have been shown; these opportunities still exist—we want the encouragement to foster these opportunities, and we want the votaries of pharmacy to assume the responsibilities of education to a greater degree, and not to delegate to or permit an usurpation of that responsibility by methods which can neither avow it, nor assume it.

Pharmaceutical Progress.

Phenyl-xylyl-ethane.—A complex mixture of the sulphonic acids of this body, and its homologues, combined with potash, is being used as a disinfectant.

Sophorin—This alkaloid, obtained from different species of sophora, was obtained by Plugge from the seeds of sophora tomentosa, L. and proven to be identical with cystisin.

Herman Janke's Hair Dye (*ne plus ultra*) consists of an alcoholic ammoniated silver nitrate solution and an alcoholic pyrogallic acid solution.—*Pharm. Post*, 1893, 637.

Ozalin is a fancy name for a new disinfectant. Apparently it is nothing more than calcium, magnesium and iron sulphates, with burnt lime and magnesia.—*British and Colonial Druggist.*

Loretin, which is chemically known as meta-iodorthooxychinolin and sulfonic acid, occurs as a beautiful yellow crystalline powder strongly resembling iodoform. It is completely inodorous.—*Pharm. Post.*

Thiol in Skin Diseases.—Dr. Laughlin (*Geneeskundige Courant*, 47, 1893, 17) in herpes uses a 25 per cent. watery solution, two times daily. He considers it superior to ichthyol in many cases on account of its being without odor and non-irritating.

Vanillin from Cloves.—Jorissen and Harris obtained upon extraction of cloves with other and subsequent treatment a white crystalline mass of a strong odor of vanilla, soluble in ether, alcohol and ether, melting at 79° and subliming without residue.—*Pharmaceutische Post*, 1893, 637.

Peru Balsam Copaiba.—F. Musset (*Pharm. Centralh.*, 1893, 720) considers the lime test very valuable. He mixes about equal parts of stiff milk of lime with the suspected balsam and obtains at once a crumbling mass which on warming changes to a friable powder.

Standardization of Fehling's Solution.—A. Bornträger (*Zeitschr. f. Angew Chem.*, 1893, 600) prepares a 0.5 per cent. solution of invert sugar as follows: Take 19 grammes saccharose, add water and 10 Cc. HC_2 (of 1.188 sp. gr.) or 20 Cc. (of 1.10 sp. gr.); make up to 100 Cc. Allow to stand for 24 hours. Take 25 Cc., neutralize; make up to one liter.

Thermodin, or acetyl-ethoxy-phenyl-urethane, is a near relative to neurodin, and possesses a quite similar action. It crystallizes in white needles, odorless, and almost tasteless, melting at 86°–88° C., and but slightly soluble in water. It is useful in cases of typhus fever, and reduces the temperature from 2.5°–3.0° C.

Bulgarian Otto of Rose.—The researches of Markownikoff and Reformatsky (*Jour. f. Prakt. Chem.*, 1893, 48) show that the principal portion of the elœoptene of otto of rose is an alcohol of the formula $C_{10}H_{20}O$. It belongs to the allyl alcohol series and is isomeric with allyldipropylcarbinol and allyldipseudopropylcarbinol.

Sensitive Test for Tannic Acid in Urine.—Rosin uses a dilute tr. iodi made by diluting 10 Cc. of the official tincture with 100 Cc. alcohol. A few Cc. of this solution are added to the urine so as to form a layer. If the urine contains tannin the separating layer will be colored in one minute greenish, which color is often retained for an hour.—*Apoth. Zeit.*, 1893, 641.

Bacillus of Soft Chancre.—Dr. Unna (*Deutsch Med. Wochenschr.*, 1893, 19) demonstrated to the Medical Society of Hamburg that he had found the same bacillus in five typical cases of chancre. It is a strepto-bacillus occurring in long chains, and meanders with the plasma cells and leucocytes. It may be detected by its stain with an alkaline solution of methylene blue.

Copaiba has been found to act as a powerful diuretic, especially in cirrhosis of the liver, by Dr. Bronowsky, who administered in twenty-four hours 6 gm. in emulsion with extract of peppermint. Copaibic acid was passed in the urine after the first day of the treatment, while the maximum diuretic action was reached on the third or fourth day.—*Gaz. lek.*, through *Nouv. Remèdes*, 1893, p. 504.

Rape oil consists, according to Reimer and Will, of the glycerides of three distinct fatty acids, one of which, melting at 75°, occurs only in very small quantities. The other two, erucic and a liquid acid which the author's name rapinic acid, are present in equal quanities. Lead erucate is readily soluble in hot ether. The zinc salts of the fatty acids can be separated by means of ether.—*Deutsch. Chem. Gesell.*

Esters of Narcein.—Martin Freund, of narcein fame, has patented some of these compounds, which are likely to find use as medicinal remedies. Narcein, $C_{23}H_{27}NO_8$, contains a carboxyl group in which the OH is capable of substitution by alkyl radicles. For example, the hydrochlorate of narcein-methyl-ester crystallizes from water in rectangular tables, melting at 150° C.; the corresponding ethyl ester melts at 205°.—*British and Colonial Druggist.*

Neurodin is acetyl-p-oxyphenylurethane of the formula

$$C_6H_4\begin{cases}O.CO.CH_3\\NH.CO.O.C_2H_5\end{cases}$$

It is used as a specific for neuralgia in doses of from .5 to 1.5 grammes. It reduces the temperature from 2.5 to 3.0°. It occurs in white odorless crystals, very slightly soluble in water)1 in 1,400 at 15° C.), and melting at 87° C.—*British and Colonial Druggist.*

Resol.—This is the name of a new disinfectant which has been introduced in Germany. Creolin appears to be its prototype. It is made by saponifying 1,000 parts of wood-tar with 9 parts of caustic potash, and adding 200 parts of an indifferent body, such as wood spirit. Resol, which is proprietary, is said to be an active bactericide, killing typhoid, anthrax, and similar bacilli in five or ten minutes with 3 per cent. solution.—*Chemist and Druggist.*

Phosphorus is prepared by a process patented by Rossell, of Bern, by which glacial phosphoric acid or alkaline metaphosphates are heated with metallic zinc or aluminum, the metals dissolve in fused acids or its salts, and phosphorus distils over; this reaction takes place at a low red heat, whereas in the older process of reducing the metaphosphate with carbon a very intense heat was necessary.—*Südd. Apotheker Ztg.*, 1893, 538.

Copaiba Varnish.—An excellent, elastic varnish may be made (*Mitt. f. techn. Mater*) by mixing equal parts, by volume, of copaiba and strong alcohol and allowing to stand until clear (or if needed at once, filtering) and then adding to each 50 parts of the clear solution 5.2 parts of castor oil. This varnish must not be used on any paint containing alcohol soluble resins such as sandarac, mastic, etc. In this case turpentine oil can be substituted for the alcohol, though with turpentine there will be no separation of the impurities.

Pithecolobin, obtained from pithecolobium saman, benth., (mimoseæ) a shade tree of coffee plantations in Japan. It is identical with the other alkaloids obtained from other species of pithecolobium. Previously (*Apoth. Zeit*, 1891, Rep. 29) Plugge called it an alkaloidal sapotoxin. To the taste it is burning. It is highly poisonous and agrees with those alkaloids whose aqueous solutions become milky upon warming and that froth upon shaking. The physiological action of this substance agrees with those made by Plugge upon his sapotoxin.—Greshoff in *Pharm. Weekblad voor Neder.*, 1893, Nos. 28 and 31.

Soda Production in Siberia.—According to Dr. S S. Von Zaleski, of Tomsk, the Barabiscian and Kulusidian steppes are well supplied with plants adapted for the production of soda, the more important of which are members of the genuses atriplex, salicornia, nitraria, statice gmelini, salsola and chenopodium. The, cut and dried plants themselves furnish the necessary fuel. These plants can, so the professor thinks, also be cultivated with profit for the production of soda on the vast salt steppes which are at present inhabited only by nomadic tubes.

The Clyster in Africa—In the course of a recent exhibition of photographs taken in Africa, as *Progrès Médical* recounts, M. Marcel Monnier showed an African method of administering enemata. The implement employed is made of a gourd with two reeds stuck into it on opposite sides. The sick person reclines on an assistant's knees in the attitude of a swimmer. One of the reeds is inserted into the rectum, and the operator, taking the other one into his mouth, blows forcibly through it, thus driving the enema out of the gourd and into the patient.

That quinine salts are incompatible with asaprol has been shown by Edhem Ismail, who says (*Rép. de Pharm.*, 1893, p. 487) that when a solution of a basic or neutral quinine salt (the sulphate or the hydrochlorate) is poured at once into a solution of asaprol, a resinous body appears on the surface of the liquid, which is insoluble in water and soluble in 90 per cent. alcohol. If an asaprol solution is gradually added to a solution of a quinine salt, a white precipitate is deposited in the bottom of the tube, and becomes soft and grayish.

East Indian Plant Constituents.—*Erythrinin* (not to be confounded with the dyestuff erythrin) is an alkaloid obtained from the bark of erythrina (stenotropsis) broteroi, haask, an Australian tree. This is probably identical with the alkaloid called erythrin, obtained from a Brazilian papilionaceæ (erythrina corallodendron, L.) called casca de mulunge. The first alkaloid has been examined physiologically by Plugge and found to be useful in poisoning by strychnine. In its action it much resembles that of cystisins, the alkaloid of cystisus kaburnum, with which, however, it is not identical.

Iodocaffeine and Iodotheobromine — Rummo states (*Sem. Med.*) that these are compounds of the respective alkaloids with sodium iodide. The first named is made by dissolving 35 parts of sodium iodide and 65 parts of caffeine in cold water, treating with sulphurreted hydrogen and evaporating to dryness. The substance is obtained in colorless crystals, while iodotheine is obtained as a white powdery mass! Iodotheobromine is made by the addition of a mixture of sodium iodide and theobromine to a concentrated solution of sodium salicylate. This, we should think, will produce a compound closely allied to diuretin, and it is obvious that the author works by unscientific methods.

Mercury in Mercury Salts.—The following results have been obtained by Fischer theoretically and Bocquillon practically.—*Pharm. Post*, 1893, 637.

	Bocquillon.	B. Fischer
Albuminate	10.20	.....
Chloride	72.20	73.80
Iodide	45.00	44.10
Chloride (mild)	84.00	85.20
Cyanide	.....	79.36
Iodide (red)	.....	6 .17
Lactate	67.10	.....
Oxide	92 59	92.60
Peptonate	57 15	.....
Phenylate	51.68	.....
Salicylate	59.00	.....
Succinate	63.30	.....
Sulphide	.....	86.20
Tannate	23.80	.....

Detection of Sesame in Olive Oil.—Musset (*Pharm. Centralh.*, 1893, No. 49) adds 0.1 gramme of dried phosphorus to 10 grammes of the suspected oil and places it in a water bath until dissolved. The resulting mixture is placed at a temperature sufficient to keep it liquid. A peculiar striped appearance is given to the surface of the liquid. If the sample is pure olive oil a white cloudiness only appears at the end of 24 hours. In a mixture containing but 10 per cent. of sesame oil the stripes are darker, and upon the sides and bottom a clear yellow appearance is observed. On adding ammonia the pure oil is not colored, but a mixture containing sesame oil is colored a deep brown.

Acetophenone Derivatives.—The halogen and amido-compounds of acetophenone are put forward as new remedies, but their use is not yet stated, so far as we can ascertain. Pyrogallol is heated with chlor- or bromo-acetic acid or their salts or esters, and following reaction takes place.

$$C_6H_3(OH)_3 + ClCH_2COOH = CH_2Cl.CO.C_6H_2(OH)_3 + H_2O.$$

This oxyderivative of chloro-acetophenone reacts easily with bases, giving amido-compounds. Such bases as aniline pyridin, quinoline and methylamine are used, and the resulting compounds are the subject of the patent.—*British and Colonial Druggist.*

Peculiarity of a Species of Rheum.—J. C. Koningsberger (*Bot. Zeit.*, 1893, 85) has examined the root of rheum macorrhizum, mart., and found both large and small groups of a small brownish substance existing in the form of grains. These are apparently formed from one of the elements of the wood which is surrounded by an unusual suturized tissue. The origin of the latter appears to be in a row of cells which border near the woody elements. The lumen of the cells is filled with a resin-like substance, which also impregnates and colors the wall brown. On the addition of KOH a purple coloration is obtained, indicating an accumulation of chrysophanic acid. On longitudinal section these cells, containing this coloring matter with their yellowish walls, are apparent with a row of cork cells upon either side. This peculiar formation appears to arise from the abnormal thickening of the walls of the wood bundle. In the lumen of these cells the secretion of this substance commences, which destroys the walls and finally breaks through into other cells.—*Apoth. Zeit.*, 1893, 94.

Characteristic Reaction of Glucose.—A. Jaworsky (*Pharm. Post*, 1893, No. 47) calls attention to the following reaction as characteristic for glucose: 3 to 4 Cc. of a sugar solution are heated for one minute with 0.12 grammes iodic acid and 0.2 to 0.4 grammes sodium hydrate. The resulting cooled mixture is acidified with dilute hydrochloric acid and cautiously covered with a layer of ammonia. A dark precipitate of iodide of nitrogen is formed.

Turkish Honey.—According to Fajans (*Apoth. Zeit.*, 1893, No. 102, 632) this product is consumed in considerable quantities by the lower classes of Austria. It is white, and in fresh condition dry, hard and brittle. On standing in the air it forms a soft, white, smeary mass. The taste is agreeable, afterwards bitter and astringent from the alum. Analysis gave: Water, 7.97 per cent.; invert sugar, 56.78 per cent.; cane sugar, 31 02; ash, 0.31, and 3.92 per cent. insoluble in 80 per cent. alcohol. An analysis of that portion insoluble in alcohol gave: 68.09, organic substance; 27.80, alum; 4 08, gypsum.

Odol consists, according to A. Scheider, of a solution of saccharin and salol in alcohol, perfumed with peppermint and caraway oil.—*Pharm. Zeit.*

Alkaloids and the Furfurol Reaction.—N. Wendes (*Pharm. Post*, 1893, No. 49) adds a grain of the alkaloid to a porcelain dish in which are two or three drops of a solution containing five drops of furfurol and 10 Cc. of concentrated sulphuric acid.

Veratrin gives at first an olive green and finally a magnificent blue. On warming a purple violet color is developed.

Sabadillin and *papaverin* give a reaction similar to veratrin, not so close, being brownish and dirty violet.

Digitalin gives a brown mixture, which on heating becomes red.

Quinine gives a dark, greenish-brown mixture, which upon warming turns brown and then green; upon the addition of water the edges are decidedly green.

Strychnine gives a dirty brown color, becoming dark green upon heating; on the addition of water it changes to a dirty blue and violet.

Morphine and *codeine* are colored reddish brown, on warming changing to violet red; the mixture changes quickly. Aconitin, atropin, brucin, colchicin, coniin and nicotine give reactions that are not decided.

Chionanthin, a glucoside from chionanthus virginica, was isolated (W. von Schulz, *Pharm. Ztsch. f. Russl.*, 1893, 579 and 593) by extracting the root with hot petroleum ether; after distilling off the solvent the residue separated white, partly crystalline, partly amorphous crusts, which, after washing with cold alcohol, were dissolved in boiling alcohol, when upon the cooling of the solution the glucoside separated. It is only slightly soluble in cold water and alcohol, but is soluble in hot water and hot alcohol; it has the formula $C_{22}H_{28}O_{10} + 2\ H_2O$, becomes anhydrous at 110° C., and at higher temperature is colored red violet, and melts, forming a transparent, glassy mass; dilute acids yield dextrose, and a red-brown resinous substance, soluble in ether and alcohol; this decomposition is attended by a strong odor, recalling balsam of Peru. A preliminary examination of the bark gave indications of alkaloids with Mayer's reagent and potassium tri-iodide; the aqueous decoction with lead subacetate gave a copious precipitate, which after washing with water and alcohol was decomposed by hydrogen sulphide; after filtering and evaporating a yellowish powder was obtained, soluble in hot water, but precipitating again upon cooling, this aqueous gave the alkaloidal indications; it is soluble in alkalies and alkaline carbonates. Saponin was tested for, but without confirmatory results.

Germ-Nucleine —This is the name recently given to a compound or mixture exatrcted from the spleen cells and other organs. It is said to be a "phosphorated proteine," and, as such, distinguishable from other albuminoid substances. It is a light yellow-colored powder insoluble in water and in alcohol, but soluble in alkaline solutions. In spite of its uncertain composition and nature, Dr. Germain Sée, of Paris, has been using it in injections. According to that writer an injection of two or three grammes (30 or 45 grains) of this substance "will augment the number of white globules acting as phagocytes." It is said to have given good results in certain cases of pneumonia and pleurisy. A more extended reference to germ-nucleine in connection with recent researches of Dr. Victor Vaughan, of Michigan University, will be found in THE DRUGGIST AND RECORD for October 12, 1893.

Commercial and Technical Names of Chemical Substances.

In the *Pharmaceutische Centralhalle* for 1893, page 718, appears the following:

Abrastol—A sulphonated β-naphthol derivative.

Agnin—Impure lanolin.

Agopyrin—Mixture of salicin, ammonium chloride and sulphate of cinchona (in tablet form).

Alphol—Salicylic acid-α-naphthylester.

Alumnol—Aluminum salt of β-naphthol-disulphoacid R.

Amidol—Diamidophenol hydrochloride (for photographic purposes).

Anaspalin—Mixture of lanolin and vaselin.

Antacidin—Calcium saccharate.

Antibacterin—Mixtures of crude aluminum sulphate and lamp-black.

Antibenzinpyrin — Constitution unknown.

Antidiphtherin—Product of the diphtheria bacillus; shown by Klebs.

Antidysentericum—Mixture of pelletierin, extract of pomegranate, myrobalans, extract of rose, and gum in pill form.

Antifungin—Boric acid and magnesia.

Antiphthisin—Product of tubercle bacillns.

Antisepsin—Serum of animals treated with iodine trichloride. (Monobromacetanilid is also given this name.)

Antispasmin—Narcein sodium salicylicate.

Antitoxin—Product of the typhus spirillus. (This name is also given to the products of other bacteria.)

Apyonin—Substitute of yellow pyoktanins (in France).

Aquozon—2.5 per cent. aqueous ozone solution with addition of hypophosphites.

Benzoparacresol—Benzoylparacresol.

Bergamiol—Linalylacetate (for perfumery).

Bromamid—Hydrobromic acid bromanilin.

Camphor—Solution of camphor and gum cotton in absolute alcohol.

Cancroin—A narcotic solution of neurin with citronic acid in carbolic acid water. (This name was previously applied to a substance obtained from cancer tissue.)

Cardin (also Kardin)—Preparation from the hearts of animals.

Cerebrin—Substance from brains.

Chelen (also Kelen)—Ethyl chloride.

Chloralamid—Chloralforamid.

Chloralose—Condensation product of glucose.

Chlorol—Solution containing copper sulphate, corrosive sublimate and chloral.

Chloryl—Mixture of methyl chloride and ethyl chloride.

Cinnamol—Rectified cinnamon oil.

Cocainum Phenylicum—According to Vian a mixture of cocaine hydrochloride and carbolic acid; according to Oefele a mixture of cocaine and carbolic acid; according to Poinsot a mixture of cocaine, carbolic acid, paraffin oil and ground nut oil.

Manufacture of Lithographers' Inks.*

BY A. M. VILLEN.

By lithographic inks is understood those inks which are prepared for writing on stone. Numerous formulas are extant for these preparations, of which only the best will be mentioned. A lithographic ink must penetrate into the stone and must resist acids. The quantities of the various ingredients depend very largely upon the particular for which the ink is to be used. For instance if one wants to etch deep the ink must contain much tallow. Aside from any of these special cases the general rule given by Lemercier is that an equal quantity of soap and of unsaponifiable substance should be present. When much tallow is used some black must also be added. Lemercier uses the following formula:

	Parts.
Yellow wax	4
Tallow	3
White castile soap	13
Shellac	6
Light lampblack	3

For the preparation of the ink a capsule of cast-iron or copper is used, provided with a cover, and also a ladle and an iron spatula. The substances should fill the capsule only one-third full. The wax and tallow are first melted and the soap added gradually. With each new addition it is necessary to wait until the previously added portion is melted, as otherwise an overflow might occur.

When the whole is melted the shellac is added in small portions at a time. The heat is then raised until white vapors are given off, when the capsule is taken from the fire and the contents ignited, being allowed to burn, if made according tn Grammen, for two minutes. It is thed extinguished by covering the vessel, ano after a few minutes the lampblack added.

It is then allowed to boil again for a quarter of an hour, and after it has cooled somewhat is poured on glued paper smeared with soap.

In order to mix better, the whole should be melted and stirred while melting.

Finally it is poured out upon marble or upon paper. Before it cools thoroughly the mass must be broken into pieces. The following are prepared in a similar manner:

I.

Tallow soap (animal fat soap)	93
Virgin wax	123
Mutton tallow	62
Light shellac	93
Iron oxide	30

II.

	Parts.
Mutton tallow	20
White wax	20
Shellac	20
Common marbled soap	29
Iron oxide	0

III.

	Parts.
Well dried tallow soap	30
Mastic	30
Sodium oxide, powdered	30
Shellac	152
Iron oxide	10

IV.

	Parts.
White wax	80
Tallow	20
Tallow soap	40
Mastic	20
Venetian turpentine	10
Iron oxide	20

Knecht, a pupil of Senefeldes, is authority for the following recipe:

	Parts.
Yellow wax	400
Tallow	300
Shellac	500
Mastic	100
White soap	400
Venetian turpentine	50
Olive oil	50
Iron oxide	100

DESMADYLL'S FORMULA.

	Parts.
Virgin wax	40
Mastic	16
Shellac	28
White soap	22
Iron oxide	9

CHEVALIER AND LAUGLUME'S FORMULA.

	Parts.
Wax	40
Mutton	40
Soap	40
Shellac	30
Iron oxide in sufficient quantity.	

Another formula is as follows:

	Parts.
Yellow wax	160
Tallow	40
Shellac	120
Mastic	10
White soap	40
Turpentine	10
Linseed oil	10
Iron oxide	190

The best lithographic ink has the following composition:

	Parts.
Yellow wax	15
Tallow	10
White soap	30
Petroleum	5
Shellac	20
Mastic	7
Linseed oil boiled with Prussian blue	3
Iron oxide	10

Lithographic inks must be firm and permanent.

They must not be affected by taking a large number of impressions and must protect the stone from the effects of the acid. The influence of the various ingredients upon the character of the ink has been investigated by Jaumac. Inks containing an excess of resin are dry, break with a shining fracture, and are insoluble in the cold. They spread too easily on the stone to produce good results. They may be washed off with oil of turpentine.

An excess of wax causes a too rapid thickening, but the ink is nevertheless good.

An excess of grease makes the ink less firm, while too much tallow renders it less permanent.

A fluid lithographic ink may be made by boiling the following substances together until complete solution results:

	Parts.
Water	2,000
Borax	60
Shellac	60
Tallow	30
Yellow wax	40
White soap	100
Anilin black	25
Iron oxide	25

Villon has devised a similar formula.

Ink for retouching is made as follows:

	Parts.
White soap	100
Tallow	100
Yellow wax	150
Linseed oil	100
Iron oxide	80

The following inks are for lithographic drawings and aqua tints.

ENGELMANN'S FORMULA.

	Parts.
Wax	80
Tallow	30
Soap	60
Shellac	60
Iron oxide	30

JOBART'S FORMULA.

	Parts.
Wax	10
Hog lard	90
Spermaceti	30
Soap	10

HANKE'S FORMULA.

	Parts.
Wax	450
Hog lard	500
Spermaceti	750
Soap	500
Iron oxide in sufficient quantity.	

*Translated for THE DRUGGIST AND RECORD from the *Bulletin de la Societe Chimique de Paris.*

Glycerin Suppositories.*

BY L. A. HARDING, B.Sc., PH.D.

Not a great many years ago glycerin suppositories were lauded by the medical profession and their merits sung to the world at large until the excitement was raised to so high a pitch that there was scarcely a day passing but what glycerin suppositories were in demand. Then came a time when the enthusiasm suddenly died and nothing was heard about them for a long time, but of late the medical world has again taken up the subject of rectal evacuation and the glycerin suppository has again attained some prominence. Manufacturers have devised special molds (double conical) for which they claim advantages, which, of course, cannot be denied. What glycerin suppositories are is in a measure a difficult question to answer on account of the great variety of ways and processes by which they are manufactured. The most of them which are supplied by the manufacturers are made by the aid of stearin soap, and contain from ninety to ninety-five per cent. of glycerin. Others are castile soap combinations with, of course, only a small percentage of glycerin. Still others are gelatin products, which also contain a small quantity of glycerin only. Every one of us is so well acquainted with the physical appearance of the glycerin suppository that it would be superfluous to enter into its detailed description here.

Chemically speaking, glycerin suppositories are a soap with glycerin as their fillers. Of the many processes in vogue none offer such elegant product, handsome in appearance, and so free from objection as the stearin product. By this method we are able to make a

*Read at the recent meeting of the Minnesota Pharmaceutical Association.

very firm and perfectly transparent product which will contain ninety-five per cent. of glycerin. I will first give its component formula, and then point out some of its features which it is necessary to observe to insure good results and a creditable product.

Stearic acid	2½ drachms
Sodium carb	1 dram. and 15 grains
Glycerin	5 ounces

Heat the glycerin and stearic acid together, regulating the temperature so as to just melt the stearic acid; when dissolved, stir so as to perfectly mix the mass, then add the carbonate of soda to the mixture, and when dissolved pour into suitable mold to cool. Now let me try to explain the workings of the formula to you so you may thoroughly understand it in case you should be desirous to make your own glycerin suppositories. The product of the above formula should, if we were to let it cool in the evaporating dish, present a prefectly transparent solid, and suppositories made from it should show the same physical characteristics. They will then contain about ninety-five per cent. of glycerin. Should the mass, however, upon cooling, present an opaque appearance the fault may be looked for in two directions. In the first place the amount of sodium carbonate may be deficient on account of the stearic acid of commerce. In this case carbonate of sodium should be added. The necessity of adding carbonate of sodium may be recognized by the fact that they are opaque in color and soft to the touch, somewhat of a lardenaceous consistency; the carbonate of sodium should be added, a small quantity at a time, until the desired result is obtained. Should, however, the product be opaque and very firm, glycerin is wanting and should be added until a perfectly clear product is the result. It must further be observed not to use a high degree of heat, not any higher than is absolutely necessary to dissolve the stearin, as otherwise a white foam will rise to the surface, which it is necessary to remove from the clear underlying solution. While this does not interfere with the product itself, it will increase the cost of the resulting product; just as much as there is foam to be removed, precisely the same amount of product is lost, whence the increased cost of the remainder.

The use of the glycerin suppositories for producing a gentle evacuation of the bowels is a recognized fact, also cases are on record where obstinate cases of constipation and stoppage of the bowels have been successfully relieved by incorporating into the suppository, aloin, colocynthin, etc., as the necessity of the case may require.

Urethal suppositories or bougies are likewise gaining much favor among the medical profession, especially in cases of gleet, where they are medicated with F. E. hydrastis, or in fact most any medicament, as there is scarcely a substance that will not thoroughly mix with the glycerin mass and thus cause an even distribution of the medicinal substance through the entire mass.

Now as to the price, you can see for yourself the formula I gave will produce a mixture of about 5½ ounces, and at the usual weight of suppositories, namely ½ drachm each, we would have nearly 100 suppositories, costing as follows: Two drachms of stearic acid at 24c. per pound, ¼c.; 1 drachm of carb. soda, at 2c. per pound, say ¼c; 5 ounces of glycerin at 20c. per pound, say 8c., making a total of 8½c. for the lot; and how much do you pay the manufacturer when buying them? Scarcely less than 30c. per dozen. Note the difference.

In conclusion let me say, manufacture your own goods: do not depend too much upon the manufacturer. Be courteous to them, but be independent.

The Tests for Eucalyptus Oil.*

By D. B. Dott, F.I.C., F.R.S.E.

Of the physical tests density naturally claims attention in the first place. Speaking generally, the oils of low specific gravity are most deficient in eucalyptol, and are more apt to contain phellandrene and, perhaps, other objectionable constituents. At the same time it would never do to place the specific gravity at too low a figure. Helbing and Passmore suggest 0.910 to 0 930. I should say 0.900 to 0.930. There are some good samples, as sample A in table of specific gravity under 0.910 to 0 930 appears a little extreme on the other side, as it is a rare thing to get an oil of specific gravity above 0 920. Yet there is evidently one variety of about 0.927 sp. gr., so that it is probably desirable to retain the higher limit of 0.930. Experience seems to show that there is not much to be learned by the use of the polariscope in the examination of eucalyptus oil. I do not think that this is an instance in which that useful instrument is of much assistance. If an accurate and ready means were known for the determination of the eucalyptol it would be matter for much satisfaction, as that is manifestly the most important point to be determined. As it is, we have to content ourselves with an approximate method.

The boiling point of eucalyptol being 174.5 C. (or very near it), and the terpenes present in the oil having lower and higher boiling points, an approximate determination may be made by rectification. By repeated rectification of a considerable quantity of the oil, a fairly accurate result may no doubt be obtained in this way, but such a process would not be suitable as a pharmacopœial test. On distilling, say, 100 Cc. in an ordinary distillation flask, the result differs very sensibly according to the rapidity of the distillation.

Neither is the eucalyptol all contained in one fraction, nor does the fraction of ten degrees or even of five degrees above and below 174.5° consist wholly of eucalyptol. For all that, it is the best test practically available. Probably the best fraction to take as representing eucalyptol is that distilling between 170°-180° C.

This has been shown to yield abundance of crystallized eucalyptol when cooled to a low temperature. Messrs. Davies and Pearmain showed that the fraction 180°-190° did not yield crystals when similarly cooled; there therefore appears no reason for the suggestion of Helbing and Passmore that the fraction 170°-190° should be taken as representing eucalyptol. Indeed I decidedly object to this proposal as tending to form a misleading judgment on the relative merits of different oils. A reference to the subjoined table as also to those given in the papers above referred to, will show that by taking the fraction 170°-190° an oil may be made to appear as of much higher relative value than by taking the proper fraction 170°-180°. Further I do not think that the suggestion to introduce the freezing-out test is at all practicable. It is extremely difficult in ordinary weather to get the temperature low enough to cause any crystallization of eucalyptol, and equally difficult to determine the exact amount which has so crystallized.

As to the proportion distilling at 170°-180°, which a good oil should yield, I do not think we would be justified in fixing the minimum at more than 50 per cent

After what has been demonstrated by Messrs. Davies and Pearmain as to the solubility of salicylic acid in mixtures of eucalyptol and terpenes it seems scarcely worth while to retain the solvent power of the oil on salicylic acid as a test. Miscibility with alcohol is a simpler and equally valuable test. I have tried some experiments in determining the bromine absorption of different oils, but not sufficient to be able to recommend it as a general test. Broadly speaking, the best oils have least absorptive power for bromine. Iodine absorption is not a convenient process. The nitrous acid and bisulphite tests for phellandren and aldehydes are no doubt of much importance, although I have not found any samples which I have examined in recent times to give distinct reactions with either reagent. Of a large number of samples which I have examined during the past five years, I give the results of the following six:

	A	B	C	D	E	F
	Sp. Gr.					
	.9087	.9115	.9144	.9130	.9123	.9177
	100 Cc. of each distilled.					
Below 170°—	18.8	33.0	5.0	25.5	17.3	18.6
170° — 180°—	58.0	57.2	69.0	64.3	59 3	56.9
180° — 190°—	11.6	5.2	12.6	6.6	13.6	13.9
Above 190°—	11.1	4 4	13.3	3.5	9.3	10.5
	99.5	99.8	99.9	99.9	99.5	99.9

*Abstract of a paper read before the Edinburgh branch of the British Pharmaceutical Society.

Melting Point of Cocaine Salts.*

By John M. Francis.

In a previous number of the *Bulletin of Pharmacy* I stated that the lack of agreement in the melting-points of certain of the alkaloids, as demonstrated by the experience of others and by my own experience, had led me to doubt the advisability of ascribing to them a *melting point* in the strictest acceptance of the term As evidence of this I have selected the muriate of cocaine as the basis for four series of experiments.

A reference to the various authorities on pharmaceutical subjects proves that we have a latitude of over 20° C. in which to locate our melting point of any sample of this salt, it being variously placed at from 180° C to 202° C.

This in itself is sufficient to arouse suspicion; how are we to explain it? Are we to suppose that the experimenters have been working with impure preparations, or that they do not determine the melting point properly, or that the lack of uniformity is produced by different manipulation?

As stated in my previous article, I believe that all these degrees of melting may be obtained from the same sample of cocaine muriate by merely varying the degree of heat applied, or the length of time in which the alkaloid is subjected to its action. I have never been able by any means of purification to obtain a sample of this salt which had a melting point as high as 200° C. under any circumstances, but I think it possible that a cocaine muriate might be obtained so free from any trace of impurity that by proper manipulation it would not melt below 200° C.

In the two following series of experiments two different samples of cocaine muriate, called "A" and "B" respect-

* From the *Bulletin of Pharmacy*.

ively were used Six *separate* portions of the same sample were used in each series, and of these portions No 1 in both series was desiccated over strong sulphuric acid for forty-eight hours; Nos. 2, 3, 4, 5 and 6, in the order named, were desiccated in an air bath at a constant temperature of 103° C. for periods of one, two, three, four, and five hours respectively.

After drying, the sample was cooled in a desiccator, transferred to the apparatus, and the melting point determined as usual. With the exception of the preliminary drying, the conditions in all instances were made as nearly identical as possible.

A.

No.	Melting Point.
1	173° C.
2	175° C.
3	183° C.
4	168° C.
5	166° C.
6	163° C.

B.

No.	Melting Point.
1	162° C.
2	174° C.
3	186° C.
4	174° C.
5	167° C.
6	162° C.

It would seem from the above experiments that the salts contained a small amount of the original solvent, which required a desiccation of more than one hour to remove, and that after this had disappeared the effects of incipient decomposition begin to manifest themselves.

In the following two series of experiments, two different samples, called "C" and "D," were used. The conditions under which the melting points were determined were as nearly identical as possible in all instances, except that the time during which the temperature of the apparatus was raised from 22° C. to the melting point of the sample was increased in each succeeding experiment:

C.

No.	Time: Minutes.	Melting Point.
1	22	191° C.
2	28	184° C.
3	33	182° C.
4	37	180° C.
5	47	178° C.
6	53	177° C.
7	60	176° C.

D.

No.	Time: Minutes.	Melting Point.
1	15	192° C.
2	28	184° C.
3	34	182° C.
4	37	178° C.
5	40	176° C.
6	48	174° C.
7	53	171° C.
8	60	169° C.

It would seem to the writer that the obvious conclusion to be drawn from the above results is, that cocaine muriate is easily decomposable by heat, and that this decomposition sets in before the melting temperature is reached, and that therefore this salt does not have a *melting* point, but rather a *decomposition* point, which varies greatly according to conditions

The pertinence of the above is made evident by reference to the U. S. Pharmacopœia (1890), in which the melting point of cocaine muriate is placed at 193° C.—a stipulation which if enforced would lead to great confusion because of the variety of results obtained by different persons whose methods or manipulation might differ only in slight degree.

Furthermore, is it not feasible to explain the lack of certainty (concerning the melting point) of many of the other alkaloidal salts by the same theory?

The experiments cited above are somewhat expansive both as to time and as to the degree of heat applied in some instances, but they serve to show more vividly the possible effects of both as causes of variation. In these experiments I have employed a "Schultze-Anschutz" apparatus which has always proved very satisfactory.

Pharmaceutical Laboratory, Parke, Davis & Co., Detroit, November, 1893.

Causes of Collapse in Fountains.*

By Thomas Warwick.

Before proceeding to consider the different ways in which portable fountains are apt to give trouble, it will first be necessary to consider the manner in which these fountains are constructed. Nothing can be simpler. Externally there is a metal shell, made either of copper, iron or steel, designed to give the fountain the necessary strength for resisting the high internal pressures to which it is subjected. But as it is necessary that the soda water do not come into contact with the metal, a lining of some sort is required. Tin is generally preferred for this purpose, and the inside of the shell is either washed with tin or a complete inner jacket or lining of sheet-block tin is used. The latter is far preferable, as tin-wash never affords thorough protection and soon wears off.

Unfortunately the sheet tin lining is subject to one great evil If the pressure on the outside of the lining ever becomes greater than that inside, the lining will collapse or be forced in, and after a few such collapsings the lining will spring a leak. Innumerable attempts have been made to prevent linings from collapsing. Some manufacturers have tried strengthening the linings or supporting them by stays or other devices so as to prevent their caving in, others on the contrary tried to invent devices which would automatically keep the pressure inside of the lining always equal to that outside; while one inventor more bold than his fellows imagined that if he could only make the lining thin enough and elastic enough, so that it would not be injured by repeated collapsing, he would have solved the problem But although many and very ingenious devices have been tried from time to time, and although it seems probable that the invention of a fountain with non-collapsible lining is merely a matter of time, at the present day the problem is practically unsolved, and those linings, which, like tin wash, cannot collapse, are more objectionable in other ways.

To the novice the numerous seemingly unaccountable ways in which fountain linings collapse are most perplexing, but a little reasoning will show him the cause. In fact the principal rules for preventing this collapsing may be briefly summarized as follows:

Rule 1. Never close the cock of a fountain until you are ready to let in the carbonic acid gas.

Rule 2. When a fountain is empty the cock should be completely removed so as to avoid all danger of its being closed by mistake. This rule applies equally whether the fountain be kept in the factory or whether it is shipped to a distance. If the cock be left in an empty fountain, or one that is not under pressure, the chances are nine out of ten that the cock will be accidentally closed, and a fall of temperature will then cause the lining to collapse.

Rule 3. Never pour liquor out of a stationary fountain without first providing some means by which air can enter the fountain as fast as the water escapes. This rule applies specially to the case of washing out the fountains. If the confectioner puts a certain amount of water in his fountain to wash it out, and then turns the fountain upside down to empty it, the lining will collapse, for the water in passing through the bung will fill up the entire space and prevent the outside air from entering. Consequently after a little water has passed out a vacuum will be formed and the lining will collapse There are several ways of avoiding this danger. One of the most convenient would probably be to have at hand a stout tube longer than the fountain itself, so that whenever it was desired to empty water out of the fountain this tube could be first inserted in such a manner as to reach to the bottom of the fountain, and the fountain could then be overturned without any danger of the linings collapsing, since as fast as water escaped through the bung air would enter the fountain through the tube, thus entirely preventing the formation of a vacuum.

Rule 4. Never agitate a portable fountain until the pressure-gauge shows at least twenty-five pounds pressure to the square inch.

There is another trouble which sometimes, though very rarely, causes the collapse of fountain linings, but in this case the confectioner is powerless to prevent the evil. I refer to the case in which there may be slight pin-holes in the fountain lining. In such a case the fountain is charged, a certain amount of soda water slowly makes its way through this pin-hole and accumulates between the lining and the outer metal shell. Afterward, when the fountain is emptied, this soda water cannot at once find its way back through the small hole, and having no longer any internal pressure to balance it, it expands behind the lining and so forces the latter inward. The only remedy to this state of affairs is to have the lining repaired or a new one put in, but fortunately it is a rare matter for such an accident to occur, and the large majority of cases of collapsed linings are due to negligence,

Leaving now the fountain linings, let us turn our attention to the external shell. This, as before stated, is made either of iron, copper, or steel. Copper has one great advantage; it does not rust. Iron and steel, on the contrary, unless kept well painted, are apt to rust and so become weakened and unfit for use. On the other hand, however, copper has not the tenacity of either iron or steel, and it is quite an expensive metal, consequently to give a copper fountain the same strength as one made of either iron or steel a large amount of metal would be required, making a heavy and most expensive fountain.

Iron, too, has the disadvantage of weight and consequent unwieldiness, hence steel fountains are generally preferred. They require a little more attention to keep them in perfect order, but if freshly painted once a year and tested every Spring they will give much more satisfactory results than either copper or iron fountains.

I cannot insist too strongly upon the necessity of frequently painting the foun-

*Condensed from the *Confectioners' Journal.*

tains. Many confectioners neglect this important precaution from a mistaken idea that the paint is only put on for ornament. They do not realize that iron or steel, if left exposed to the air, is apt to oxidize or rust, and this rust, to use a popular phrase, gradually eats its way into the iron, thus weakening it considerably. Rust can only take place when air and moisture can reach the iron, consequently portable fountains should be kept in a dry place, and as there is always more or less moisture in the air, the fountains should be kept well painted to prevent the air from coming into contact with the iron. If at any time the paint should by accident be scratched off of a considerable surface of the fountain, the paint brush should at once be passed over this portion. A small scratch is not of much consequence, but it pays to be particular in keeping the fountains thoroughly covered with paint.

The Pharmaceutical Meetings at Chicago in 1893, with some Notes on American Pharmacy.*

By N. H. Martin, F.L.S., F.R.M.S.,

President of the British Pharmaceutical Conference, Delegate from the Pharmaceutical Society of Great Britain to the American Pharmaceutical Association and to the Seventh International Pharmaceutical Congress at Chicago.

Before I touch on pharmacy, just a word as to the journey, as to travel in America, American scenery, and, above all, American hospitality. * * * It is genuine, hearty, sincere, and as big as their great continent. I am convinced that it springs from a deeper source than community of interests in the same pursuit, and dates as they would say "way back" in the decades and the centuries whence we have sprung from the same source, and the history as well as the literature, the discoveries and the triumphs of our race are the joint heritage of America with ourselves.

Chicago well maintained the honor and reputation of America in this particular, and those of us who enjoyed the warmth and splendor of her private and public hospitality will ever treasure the reminiscence as one of the bright and happy experiences of our past. Personally, I have only one complaint, and that is that they were a little too exacting in their desires that I should "say something."

At the American Pharmaceutical Association meeting * * * Printed copies of the papers were handed around the room as soon as the authors commenced to read them, and as it was my first experience of this being the case I should like to tell you how it impressed me. It seemed to take all the interest out of the paper for the majority of the audience, who could go on with their private conversations during the reading, and yet by glancing over the printed paper could keep themselves abreast of the main idea in it. The effect was that the reader, instead of having an alert, attentive audience, appeared to be performing some sepulchral rite, but when he ceased the critics were very much on the alert in the discussion.

The American Pharmaceutical Association is carried on in three sections. One is styled the section on Scientific Papers, another the section on Education and Legislation, and the third the section on Commercial Interests.

The section on Scientific Papers was carried on until nearly 11 P.M., and as I was not aware that there would be such a late sitting I missed a considerable part of it. The papers were varied and practical in their character, and the discussions were participated in by a number of members with considerable spirit.

There were several very interesting papers presented to the section on Education and Legislation but one thing struck me very forcibly, and that was the volubility with which men read papers and discussed views and practices without the least intention or thought that they would have a practical bearing. It all seemed academical and inconsequential, and for such an intensely practical people as we usually think the Americans to be, it seemed to me a waste of time.

Another striking feature was the frequent appointment of "committees of three." The president's address, instead of being made the subject of a vote of thanks immediately after its delivery, as it would be with us, was referred to one of these committees of three. The result was that no piece of business was debated and finished straight away, but there was an endless succession of appointments of committees and receiving of reports. The latter were frequently interpolated between the reading and discussion of some interesting paper, and formed an interruption which was anything but valuable in the elucidation of the particular subject which was at that moment before the meeting. The appointment of these committees was so informal that it sometimes happened that committees were appointed the members of which were entirely unsonscious of it until months after. It was no one's special duty to apprise them of their appointment or to summon them to discuss the subject for the purpose for which they were nominated.

The section on Commercial Interests was vastly entertaining, but certainly not profitable. All that can be said is that they met, they discussed, they sometimas passed resolutions, and they adjourned until another year. A considerable degree of heat and temper was manifested during the discussions in this section, but immediately after the adjournment the resources of Chicago provided an efficient antidote, and it was not long, after the evening meeting, before goodwill and friendship again reigned supreme. An attempt is sometimes made to induce this society and the Pharmaceutical Conference of this country to take up what are called "trade matters" (the regulation of prices and so forth). If the men who are so anxious upon this score, and so sanguine that good could be accomplished thereby, could see how little it does in America, I think they would cease their demands.

The dominant feature of the American Pharmaceutical Association was the publication and presentation of the first copy of the United States Pharmacopœia, which although it is called the Seventh Decennial Revision, and is dated 1890, was not published until August, 1893, and is not to be the official guide until January 1, 1894. You have all seen reviews and notices of this volume, and I have not yet had time to examine it with sufficient minuteness to add to what has been written, so far as the intrinsic merits of the details of the book are concerned, but I think every one who has had an opportunity of even the most cursory examination of it will agree with me that it is a volume of which the Americans may be justly proud. * * * It is evidently a practical book, written by men who have used and tested the formulæ for the various preparations included. At page xxv. of the introductory remarks the general principles to be followed in revising the Pharmacopœia are admirable, and I think they may well be taken as a guide in the production of our own standard work.

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The second week was devoted to the meeting of the International Congress, and in this arrangement I think our friends on the other side made a mistake. We were almost entirely the same set of men; we had one week pretty fully occupied with matters pharmaceutical; we were largely attracted by the gigantic exhibition on the shores of Lake Michigan, and we were altogether not under the most favorable conditions for the serious discussion of the long list of subjects set down for the consideration of the Congress.

There were some features, however, which were unique to this Congress, and I must not omit to mention them. The first, after settling the preliminaries of business, the election of officers, and so forth, was the presentation of the Hanbury medal to the late Professor Maisch. You all know the professor was too ill to be present, and that the formal presentation was made by our president, and the medal was received by Professor Remington, president of the Congress, on behalf of his dear friend and colleague, Maisch. Gentlemen, I have often been proud of Michael Carteighe, but I never felt more pleased with any man than I was with him in presenting that medal. How his speech has read in hard type I do not know, but, delivered as he gave it, it was inimitable and magnetic in its effect. Professor Remington's reply on behalf of his friend was almost equally felicitous, and was touching in its pathetic allusions. Altogether I rejoice that I had the privilege of being present, and I shall never forget the presentation and reception of the Hanbury medal of 1893.

No meeting of the International Congress would be complete without a reference to an International Pharmacopœia, but our American friends, with the laurels of their own successful book fresh upon them, took a practical and bold step, and carried matters further than had ever been done before, by voting a sum of one thousand dollars to be placed in the hands of a commission, which was to "be employed by the Congress to compile and publish an International Pharmacopœia." The resolution of which this formed the basis was referred to a representative committee, of which I happened to be a member, and after a full and most careful discussion it resulted in a permanent committee of three being appointed, to arrange with the Pharmacopœia Committees of the various countries for the appointment of a commission to compile an International Pharmacopœia of potent remedies.

This committee, as you will have already seen, is composed of Professor Remington, Mr. Carteighe, and Anton von Waldheim, and as there seems no more valid reason why such potent substances as tincture of aconite, tincture of opium and others should be of different strengths in the various civilized countries, except that there has been no official body to authorize their unformity, I hope that something like international agreement in these directions may now be accomplished.

The representatives from the continent of Europe who attended the Congress were few in number, but some continental pharmacists wrote and contributed some good papers on Education, Pharmacopœial Nomenclature, etc., which were duly read and discussed, and the publication of which will be valuable.

*Abstract of a paper read before the Pharmaceutical Society of Great Britain at an Evening Meeting in London, December 13.

On the third day of the Congress an important discussion took place on the relation of pharmacists to public sanitation, and the subject of the adulteration of food, which was taken part in by several Americans, by Mr. Martindale and Dr. Ramlot. Subsequently a committee was appointed, and the following resolution was unanimously adopted:

"That in the judgment of the Congress, the educated pharmacist is the natural and proper expert on measures for public tests, not only in the prevention of adulterations, but in the inspection of water supplies, of sewage, etc. The pharmacist is, by virtue of his profession, the common chemist of the common people."

The last sentence reads well, and was received with applause, but before the "licentiate in pharmacy" of America, or the "registered chemist" of our own country, will be able to establish any such claim "by virtue of his profession," he must make a much greater effort to become a chemist in reality as well as in name. With regard to the first half of this resolution, so far as it may have any reference to this country, however natural it may be for pharmacists to be the proper experts in the questions of sanitation and adulteration, the duties are already in the hands of persons who are for the most part not connected with pharmacy.

On the broad question of education for pharmacists, the Congress generally approved a four years' apprenticeship, and an enforced curriculum of study, and it was resolved that every delegate should use his influence to bring this about in his own country. An "enforced curriculum!" We have heard of it since education has been talked about; how long is it to remain in the region of talk?

* * * * *

In the mean time there is no useful lesson to be learned from the United States. So far as my observation goes, I must record the impression I have formed that these three all-important parts of pharmacy, education, examination, and legislation, are in an entirely chaotic condition in the United States, and that there are two factors, viz., the dollar and politics, which exert such a pernicious influence, and are so powerful, that I fear it will be many years before pharmacy will reach the plane to which many of our friends in America rightly aspire, and to which some of their literature which we meet with in this country would lead us to suppose they had attained.

With regard to education, if advertisements and prospectuses were reliable guides, every State and almost every city is provided with most ample facilities, but if we look beneath the surface and examine closely into the machinery for education, we shall find it differs in value—from the college of pharmacy with a seventy years' record of honored names and honest work, to the college (*sic*) of just as many months or days, with its self appointed and denominated professors, who have little to commend them as fit for the posts they occupy, except the possession of an ineffable amount of self-assurance, and a fixed determination to be heard and known for their much speaking. There would appear to be no uniform standard of educational attainment even aimed at by many of these bodies, and although several of them have what they are pleased to call junior and senior courses, we find in some cases the latter are a mere repetition of the former, and that no attempt is made to take the student on to any higher plane of education. Most of the colleges, as the compliment of an attendance upon their prescribed course and a more or less serious examination, confer upon their students the title of "graduate in pharmacy," but so little is this title respected in America, and so slight is the confidence reposed in its meaning anything, that at the meeting of the American Pharmaceutical Association in Chicago the following report was unanimously adopted in the section on Legislation:

"Regarding the question of registering of graduates of pharmacy without examination by boards of pharmacy, it is the sense of this section that the best interests of pharmacy are secured by the non-recognition of diplomas by the State boards. That there shall be no difference in the treatment of applicants for registration as pharmacists, whether they be graduates or not."

This means that the title of "graduate of pharmacy" is worth so little, forsooth, or is of such variable and uncertain worth, that even the boards of pharmacy (and I shall tell you presently how they are constituted and how they examine) are advised by a national assembly of pharmacists not to accept the diploma in lieu of their own examinations. I quote the following from a report of a State board of pharmacy:

"It is to be regretted that some colleges of pharmacy, in anxiety to increase their popularity or to enrich themselves financially, have become somewhat lax in their requirements for graduation," and then follow some further remarks, and a copy of a correspondence with a conference of the teaching colleges of pharmacy of the United States, in which are pointed out specific instances of laxity, such as crude and raw students with as little as fifteen months' practical experience of the drug business, and being under age, having been granted diplomas. The Dean (*sic*) of one college claimed that "every American college is doing the same thing." The pharmaceutical journals admitted the existence of the evil, although some of them "hedged," but it was mentioned as a significant fact that those journals were the organs of the colleges complained of. In this connection it will be interesting to record a question and answer in one of the papers presented to the American Pharmaceutical Association. "How can colleges of pharmacy be placed upon a purely educational basis instead of being conducted for the money they can make?" "By the drug trade of each section giving annually one-fourth the sum now expended for *association, entertainment* and commercial interests to the establishing of an endowment fund for the nearest college of pharmacy, the income to be devoted to practical instruction."

It will be impossible, within any reasonable space, to present to you a synopsis of the teaching in all the colleges of pharmacy in the States, but, broadly, the opinion I have formed is that there is not anything like sufficient time devoted to laboratory practice in any of the subjects taught. Lectures and review quizzes are provided in abundance, and these are frequently given in the evenings. I have before me the time table of one college in which there are lectures from 7.30 to 8.30 P.M., from 8.45 to 9.45 P.M., and a review "quiz" from 10 to 10.45 P.M., every night in the week except Saturdays, when there are two lectures and a review a little earlier. It almost takes one's breath away, and one naturally asks—When do the young men have time to think, and to assimilate and digest the substance of so many lectures and "quizzes," in such doses at bedtime.

These lectures, and much of the work in many of the colleges, are arranged for the accommodation of men who are expected to be holding situations in some store or pharmacy and who are spending the balance of their time (the best of their time I should say) in the occupation of the proprietors of drug stores, where a miscellaneous business of all kinds is carried on, and whatever legitimate pharmaceutical work there is is merely an adjunct to the soda fountain. One college even advertises the fact that students attending it can obtain situations easily and earn enough for board and lodging.

With regard to practical work, we find that one of the colleges—which boasts that "the facilities for laboratory instruction are unexcelled in this or any other country," and has a botanical laboratory, a microscopical laboratory a chemical laboratory, a pharmaceutical laboratory, and a dispensing laboratory—condenses its practical work into two hours twice a week for twenty-five weeks, during which the students are supposed to be so proficient in these various studies that time is found for lectures on "anatomy, physiology, and the application of medicine to diseases, and the application of trusses to hernia" Among "elective subjects" we find lectures on the "origin and location of mankind, the origin of trade, botanical gardens, and medical practice," but in order to induce the student to "elect" to follow these he is assured that "the subject is very interesting, and takes up to lecture hours."

I now come to the question of the examinations by which pharmacy is State-controlled in America, and as the result of which the examined man becomes the possessor of a "certificate of qualification and competency," to either become an assistant, or the possessor of a store on his own account. In almost every State of the Union (if not in all) there is now in existence a pharmacy act, by which there is created a "board of pharmacy," among the duties of which is the conduct of the State examinations. These boards of pharmacy usually consist of five men (in some cases there are only three), who are appointed by the governor of the State for a term of years, and whose duties are only loosely defined, while their powers are as plenary and as absolute as the most despotic monarch could desire. In some States no other qualification is necessary than that the persons are, in the opinion of the governor, competent to perform the duties; whereas, in other States, it is provided that three out of the five shall be graduates in pharmacy. These boards of pharmacy appoint one of their number as president, and another as secretary, after which they make up various committees. In one board of five members there exists a committee on "complaints and grievances," another on "adulterations and poisons," a third on "auditing and finance," and so on, so that it is no fancy picture that in America the ideal committee of "one" must be frequently reached.

I have not desired to look for motives in the selection and appointment of the members of these State boards, but when I tell you that the secretary is appointed for a term of years, that in one State he gets a salary of $2,000 and an allowance of $600 or $700 more per annum for expenses, I think there is room for the suspicion that political services rendered may be at least as powerful as pharmaceutical fitness, in the selection and appointment of one member of the board.

The board does not meet, as we would suppose, in the capital town or the most important center of the State, but is peripatetic, and travels (as occasion may require, I suppose) from one center to another; the consequence is there are no specially fitted rooms or laboratories suitable for the conduct of the practical subjects of dispensing and analysis, so we find these are dispensed with and the examinations are entirely theoretical and almost entirely written ones. With regard to materia medica no further provision is made than that specimens of drugs, such as one member of the board can obtain by a visit to the chemists' shops in the neighborhood, just before the examination, appear to be handed to the students for identification and written description.

The members of the board on reaching a town take up their quarters and hold

their meeting at some hotel, while the examination may be held in a room in another hotel. On reaching the hotel where the examination is to be held the secretary calls the roll of students in attendance, and the president proceeds to make a speech, in which he informs the candidates, for the first time, so far as I can make out (there appear to be no printed rules or regulations to guide either the board or the students), of the subjects and scope of the examination, and warns them against the "clandestine use of books," "whispered consultations," and other unfair means of attaining the coveted registration of the board.

In one case which I have recorded, thirty-one candidates answered to the roll call, and then two members of the board examined the candidates in "toxicology, prescriptions, and materia medica," from 2 to 5 P.M. A recess was then called, and at 7 the class re-assembled and was examined in chemistry by another member of the board until 9.30 P.M. The next morning at 9 A.M. the candidates re-assembled, and were examined in pharmacy until 11.15 by a fourth member of the board. This completed the examination so far as the class was concerned, and a recess was taken by the board until 3 P.M., when the full board met again to "consider the answers to the questions," and as the result fifteen candidates were found to have passed a satisfactory examination before the board of pharmacy, and "on motion, were declared licentiates in pharmacy of the State of ———." How long this process of examining the papers of thirty-one candidates in five subjects took is not on the minutes, but as a good deal of other work, including administrative and financial business, was done, and no "recess" was called, I infer that the decision upon the papers must have been reached with considerable dispatch.

On another occasion, and in another town, the same board met when only three members were present, two of whom (so the minutes record) repaired to the ——— hotel, where seventeen candidates were in waiting. The examination was conducted during the afternoon of one day and part of the morning of the next, and as the result four names were added to the list of "licentiates" of that particular State. You will observe the rejections—over 75 per cent.—are very heavy at this examination, and we may infer from it probably, that the two members of the board, conscious of their responsibility to examine in five subjects, erred if at all, on the side of the "safety of the public."

By this board toxicology is one of the subjects included in the examination, and I find them among the questions a request for the symptoms of poisoning by aconite and nitrate of silver, subjects which we should relegate to the medical man. In another examination I find "physiology" included among the subjects, and such a question set as "Name the largest gland in the human body, and give an account of its functions."

It is not necessary for me to add specimens of ridiculous answers to questions, a number of which were included in papers presented to the American Pharmaceutical Association, or to remark that some of the candidates are so ignorant and so little accustomed to handle drugs and medicines that a writer of a paper presented to the association mentions "the possibility of a candidate for registration in pharmacy being poisoned by the examination of samples submitted," but I would ask our American *confrères*, in all seriousness, if examination by a State-governor pointed board of pharmacy, in the manner and under the conditions I have sketched, can be accepted as anything better than a parody upon pharmaceutical education and knowledge.

It is no answer to say that in this State or in that the governor has made the wisest possible selection, and has appointed five absolutely wise, learned and conscientious pharmacists, who are capable men, able and willing to devote the time to the work; the system is entirely wrong, and no examination, in the true sense, can be conducted with uniformity and a becoming dignity by three or five men touring from one town to another, without a fixed suite of rooms properly equipped with apparatus and specimens for the work.

Lastly, I come to legislation, and on this point I have not much to say. One of their own writers states "that the laws we have are crude, inconsistent, and therefore without value." I might leave this section of my notes there, but it will perhaps be more interesting to give you a slight sketch of what their laws are like, and I take a copy of the pharmacy law of one of the States, which was passed in 1889. This act consists of eleven sections. By the first it was enacted that "No person shall conduct or keep a shop of any kind for retailing drugs and medicines, or for dispensing physicians' prescriptions, except he be registered." So far this seems an ideal Pharmacy Act, and the handling for every purpose of drugs and medicines is confined to the educated and examined pharmacist, but unfortunately the second half of the section gives it nearly all away, as it is expressly stated that "it shall be lawful for any person to sell proprietary medicines, or to be the owner of a shop, if he takes no part in conducting or keeping the same." This last condition is evidently overcome sometimes, as we find an advertisement for "a qualified man to take charge of a shop at a distance, or of one who has a *diploma to let*."

By the second section a commission of three, to be styled the "Commission of Pharmacy and Practical Chemistry," is to be appointed by the governor, and to hold office for three years.

Third.—The commission shall hold meetings for examination, etc., at least quarterly, "at such time and place as they may see fit."

Fourth.—They shall examine candidates, and if any one is found skilled and learned in pharmacy they shall give him a "certificate stating that he is a skilled pharmacist and authorized to engage in the business of apothecary and druggist."

You will have observed how, under such delightfully vague law as this, men are examined in toxicology, physiology, and many other subjects which we do not connect with pharmacy. There is really nothing to prevent the board from requiring a knowledge of astrology and palmistry if this State-governor appointed board of three thinks these subjects essential to a candidate who is to be called "learned in pharmacy."

Fifth.—They shall examine applicants over 18 with two years' experience, and register them as assistants.

Sixth.—A registry to be kept.

Seventh.—A record of the doings of the Commission is to be filed with the Secretary of State.

Eighth.—"Applicants for pharmacists' (the fourth clause provides for their being registered as "apothecaries and druggists") certificates are to pay five dollars, and of assistants' two dollars, and each commissioner is to receive five dollars a day for each day of actual service not exceeding fifteen days in the year, and all expenses incurred in the discharge of his duties."

This is evidently a very economical State, and unless there is a good deal of elasticity about the last words of the clause, the State must be blessed with some patriotic men, who will travel a long distance and examine men at two dollars and five dollars a head on the pittance of five dollars a day and expenses.

Nine.—"All pharmacists lawfully registered are authorized to keep spirituous liquors for compounding their medicines."

In one form or another this is a very important clause. We find in one State one of the reasons for a candidate presenting himself as a candidate for examination is that he may as a registered pharmacist procure a "druggist's license to sell liquors," at the nominal fee of a dollar.

Ten.—"All persons violating this law shall be punished by a fine not exceeding fifty dollars for each week of the said violation."

Prosecutions appear to be among the duties of the commission, and quite a number of convictions are obtained and penalties recovered.

Eleven.—"This Act shall not apply to physicians."

In most States men who possess medical degrees can claim to be registered as pharmacists without examination, and many practice as medical men at the same time they keep open shop.

Before I finish you may ask me—But what is the actual condition of the drug trade, wholesale and retail, in the States? With regard to the wholesale and manufacturing trade I will say but little, except to record the impression that there is a great disposition to use the power of money and the services and influence of science and scientific men, in fair and unfair attempts to induce medical men to prescribe and use only X. Y. and Co.'s tincture or extract. The result is that a dispensing chemist has to keep perhaps half a dozen different makers' preparations of a pharmacopœial article. As to the retail trade, so large a proportion of their pharmacies have the appearance of bazaars and refreshment saloons that one is forced to the conclusion that these pharmaceutical adjuncts are really the important sources of the incomes of the proprietors, and we cannot but suppose that pharmacy suffers accordingly. It was with a feeling of intense pleasure that I visited on my last day in New York a retail pharmacy where there was no sign of soda fountain or sundries, and a pure prescription and drug business was done. I think it is due to the proprietor of this pharmacy who has the courage to conduct a pure drug business, to state his name. It is Mr. Fraser, of Fifth avenue, and that I should like to take this opportunity of thanking him, as well as many others whom I met in America, for much courtesy in giving me information.

In conclusion, although in what I have written I may appear to have blamed more than I have praised, I hope it will be received

"In spite of all, as brother judging brother."

There are men who have been, and are, connected with pharmacy in America whom I respect as highly as I do some of our own most distinguished pharmacists. Proctor, Parrish, Bedford, Markoe, Maisch, Squibb, Remington, and a number of others, have been familiar to me in their writings ever since my own connection with pharmacy, and I am indebted to them for much of the information which I possess and value. Bedford, Squibb, and Remington I count it a happiness to have known, and to know personally. It is with the sincere desire that the pharmacists of the great American nation may be worthy of such men that I have written candidly upon what I have observed which is hindering, and will hinder, the progress of pharmacy in that country.

Assay of Alkaloidal Drugs.*

By C. C. KITTER.

NUX VOMICA.

Fifteen grammes of the dried and finely powdered seeds are placed in a small extraction tube 12 cm. long 25 mm. wide, terminating in a delivery tube 7 mm. wide and 5-6 cm. long, the end of which is ground obliquely; the upper end of the extraction tube is ground so that it can be covered with a small glass plate), uniformly packed and percolated with ether (this is facilitated by connecting the apparatus with an ear pump until the ether reaches the small plug of cotton) allowing the percolate to drop into a vial of 150 grammes capacity until 10 drops of the percolate leave no residue upon evaporation, which requires about 100 Cc. ether and from 30 to 90 minutes according to the fineness of the powder.

To determine the amount of alkaloid extracted in this treatment by the solubility of the alkaloidal salt in the fixed oil solution the ethereal solution was agitated with an excess of $\frac{n}{10}$ hydrochloric acid, the greater part of the ether decanted and the residual liquid titrated with $\frac{n}{10}$ ammonia, using iodoeosin as indicator (*Am. Journ. Pharm.*, 1892, 521). The rather remarkable observation was made in this connection that using the unpeeled nux vomica about 24 per cent. of the total alkaloid was found in the yellow ethereal solution against only 7 per cent. in the case of peeled nux vomica yielding a colorless filtrate; the fat averaging 3.15 per cent

The extraction tube is next placed on a dry, tared vial of 250 grammes capacity, the cotton plug pushed into the vial and the drug washed in with ether, adding of the latter to make up to 100 grammes; after adding 50 grammes chloroform, and thoroughly agitating, 10 Cc. ammonia water (10 per cent.) are added and the mixture shaken repeatedly during half an hour. In the mean time the ethereal fat solution is agitated with 5 Cc. $\frac{n}{10}$ hydrochloric acid and 10 Cc. water, pouring off the ether as far as practicable and securing a complete separation by the use of a separating funnel, which is then washed with several portions of water so that the acid solution and washings measure 25 Cc. This acid liquid is added to the mixture in the vial, shaking for several minutes and after the separation into two layers 100 grammes of the ether-chloroform solution are poured (if necessary through a small filter moistened with the solvent) into a tared Erlenmeyer flask and the solvent distilled off.

The alkaloids remain as a colorless varnish, which is freed with difficulty from the chloroform by heat, but which can be easily effected by covering the alkaloids several times with small quantities of alcohol, which is then boiled away in a water-bath; the alkaloids during these operations become crystalline and can be dried to constant weight at a temperature *not exceeding* 95-100° C

The alkaloids can then be titrated by dissolving in 5 Cc. chloroform with the aid of a little heat, adding 40 Cc. ether 10 Cc. water, one drop of an alcoholic iodoeosin solution (one per cent.) and 10 Cc. $\frac{n}{10}$ hydrochloric acid; after agitation the excess of acid is titrated with $\frac{n}{10}$ ammonia until a permanent red color appears in the aqueous solution; after each addition of ammonia the flask must be corked and agitated; 1 Cc. $\frac{n}{10}$ acid is taken as the equivalent of 0 0364 grammes alkaloid. The following table exhibits the results:

	ALKALOIDS.		
	By Weighing. Per cent.	By Titrating. Per cent.	Difference. Per cent.
(1) Unpeeled	2.640	2 548	0.092 = 3.50
(2) Unpeeled	2.685	2.611	0.073 = 2.01
(3) Peeled	2.855	2.725	0.060 = 2.10
(4) Peeled	2.780	2.785	0.055 = 2.18

The difference between weighing and titrating is so slight that the former suffices for practical pharmaceutical purposes and enables the assay to be completed in less than three hours. It is important to adhere to the use of two parts ether and one part chloroform in the extraction since a larger proportion of chloroform increases the yield of crude alkaloids (probably caused by solution of the glucoside loganin; the red color obtained by warming the crude alkaloid with dilute sulphuric acid indicates this), and hence a greater difference is shown between the weighed and titrated alkaloids. The use of a greater proportion of ether risks loss of alkaloids by crystallization since the alkaloids are almost insoluble in pure ether. The fear that the peeled nux vomica contains a considerably higher percentage of alkaloids than the unpeeled appears groundless from the results of the analyses quoted; for pharmaceutical purposes the peeled nux vomica is preferable because of its advantages in making tincture and extract.

STRYCHNOS BARK.

Strychnos bark is assayed as the seeds with the difference that the bark is first percolated with a mixture of ether and chloroform; these solvents extract only traces of alkaloid, but leave a dark greenish brown residue of chlorophyll, fat, wax, etc., amounting to 0 93 per cent. of the bark. The yield of alkaloids is higher than in the seeds, three determinations giving 4.55–4.56 per cent.; the alkaloids were obtained as a yellowish varnish, which required treatment with four portions of alcohol before a crystalline appearance was noted; the residue was obtained of constant weight after considerable difficulty due to the preponderance of brucine; by a method to be described there was found, in the alkaloidal residue, strychnine 33 6 per cent., brucine 66.4 per cent.

DRY ALCOHOLIC EXTRACT OF NUX VOMICA.

This was assayed by placing 1.5 grammes of the dry, finely powdered extract in a vial of 150 grammes capacity containing 10 grammes of water, agitating until a uniform mixture is obtained, adding 30 grammes chloroform and 60 grammes ether, and, after agitating, 5 Cc. ammonia water (10 per cent.) The mixture is agitated for several minutes, and the vial set aside; after 15-30 minutes the mixture will separate so that 60 grammes of the chloroform ether solution can be transferred to an Erlenmeyer flask, filtering if necessary, and the assay finished as already described. An extract made by the author from the unpeeled seeds (which had previously been extracted with ether) and 70 per cent. alcohol yielded 12 per cent. extract containing 21.2 per cent. alkaloids; two commercial extracts yielded 14.3 and 16.2 per cent. alkaloids.

QUANTITATIVE SEPARATION OF STRYCHNINE AND BRUCINE.

This is effected by a modification of Gerock's method, and is dependent upon the alteration of brucine sulphate by dilute nitric acid into compounds having no basic character, while strychnine sulphate suffers very little or no decomposition under the same circumstances. 0.2-0.4 grammes of the purified alkaloids (the crude alkaloids are dissolved in dilute sulphuric or hydrochloric acid with the aid of heat, the solution filtered and extracted with a mixture of 3 parts chloroform and 2 parts ether after adding ammonia in excess: the chloroform ether solution leaves the alkaloids colorless and perfectly soluble in dilute acids; any loss occasioned in the purification is of no moment, since it is desired to establish only the relative quantity of the two alkaloids) are dissolved in an Erlenmeyer flask in 10 Cc. dilute sulphuric acid (10 per cent.), applying heat cautiously so that as little evaporation as possible takes place. After cooling one Cc. concentrated nitric acid, sp. gr. 1.41-1.42, is mixed with the solution (very frequently the sulphuric acid solution upon cooling deposits cyrstals of strychnine sulphate, which dissolve again on the addition of the nitric acid), producing the well-known red coloration of brucine with nitric acid. The flask is set aside for one or one and a half hours at the ordinary temperature, adding at the expiration of the time 40 grammes chloroform and 40 grammes ether and, after agitation, 10 Cc. ammonia water (10 per cent.) The mixture is shaken for several minutes and 40 grammes of the chloroform-ether solution filtered into a tared flask, the solvent distilled off and the residue (strychnine) dried at 95–100° C. and weighed.

The crystallization of the strychnine is so sudden that the crystals are thrown around in the flask with considerable violence; to obviate this the distillation should be discontinued as soon as crystallization commences and the remainder of the solvent gotten rid of by an air current, which also facilitates the final drying. The strychnine is generally of a yellowish color due to traces of adhering coloring matter; it must always be tested for brucine by solution in concentrated sulphuric acid aad addition of a small crystal of potassium nitrate, only a pale yellow color being allowable This method is also satisfactory in testing commercial brucine for strychnine. Six determinations of the strychnine in the alkaloids from nux vomica gave results varying from 45.1–50.6 per cent., and averaging 47.16 per cent., confirming the statement of Beckurts that the two alkaloids are present in abou. equal parts.

CINCHONA BARK ASSAYS.

These are made by a very much simplified Haubensack-Kuersteiner method (*Am. Journ. Pharm.*, 1891, 347; 1893, 71). 12 grammes of the dried and finely powdered bark are placed in a vial of 250 grammes capacity, 120 grammes ether, and after agitation 10 Cc. ammonia (10 per cent.) added, and the mixture repeatedly shaken during half an hour; if the bark to be assayed is succirubra 10 Cc., if calisaya 15 Cc. water are added and the mixture agitated for one minute; 100 grammes of the ethereal solution (which from succirubra is perfectly clear, from calisaya, however, is somewhat turbid) briskly agitated in a flask with 3 Cc. dilute sulphuric acid and 37 Cc. water, and allowed to stand for about ten minutes, when a perfect separation will allow of the decanting of the greater portion of the ethereal layer, the remainder is transferred along with the acid solution to a small separator and the acid solution allowed to run off into a beaker and the flask and separator rinsed

*Abstract from the jubilee pamphlet of the Swiss Apothecaries' Association. *American Journal of Pharmacy.*

with 10 Cc. water, the acid solution is freed from ether by warming and replaced in the cleansed separator, where it is agitated with a mixture of 30 grammes chloroform and 10 grammes ether along with 5 Cc. ammonia water. The chloroform-ether solution is run into a flask and the agitation repeated with 15 grammes chloroform and 5 grammes ether; the united alkaloidal solutions are filtered through a small chloroform-wetted filter into a tared flask and the solvents distilled off.

The alkaloids from calisaya are generally crystalline, from succirubra amorphous and retaining chloroform; by the addition of 3 to 5 Cc. absolute alcohol and boiling this away in a water-bath the alkaloids are obtained crystalline and capable of being easily dried at 100° C.; a higher temperature is to be avoided.

The weighed alkaloids may be titrated by dissolving in 10 to 15 grammes alcohol, adding water until precipitation commences, and titrating with $\frac{n}{10}$ hydrochloric acid. The weighed alkaloids may be titrated by dissolving in 10 to 15 grammes of alcohol, adding water until precipitation commences, and titrating with $\frac{n}{10}$ hydrochloric acid, using hæmatoxylin as indicator (1 gm. hæmatoxylin dissolved 100 gm. diluted alcohol with 2 to 3 drops of ammonia). From the results of a large number of assays 1 Cc. $\frac{n}{10}$ hydrochloric acid is the equivalent of 0.0315 gm. calisaya alkaloids and of 0.0304 gm. succirubra alkaloids.

Fluid extract of cinchona is assayed by diluting 6 gm. fluid extract with 15 gm. water, adding 90 gm. ether and 5 gm. ammonia water and agitating repeatedly during one-half hour; from 75 gm. of the clear ethereal solution, representing 5 gm. of the fluid extract, the ether is distilled off and the alkaloids weighed at 95 to 100° C. The alkaloids must be titrated by dissolving in 10 gm. alcohol, adding 40 gm. water, two drops hæmatoxylin solution and sufficient $\frac{n}{10}$ hydrochloric acid to produce a permanent yellow coloration.

In assaying *extract of cinchona* 1.5 gm. are triturated with 15 gm. water, transferred to a vial of 150 Cc. capacity, 90 gm. ether and 5 Cc. ammonia water added, thoroughly agitated during one-half hour and 60 gm. of the clear ethereal solution, representing one gramme extract proceeded with as above.

The thalleioquin test can be made with these several titrated solutions by diluting 1 Cc. with 9 Cc. water, adding 2 to 3 drops bromine water, and lastly 1 Cc. ammonia water.

Notes on the Chemical and Microscopical Examination of Urine and Sputum.*

E. J. MILLARD, F.C.S.

URINE.

Color.—Light yellow urine may be due to drinking excess of water or to nervous affections. Diabetic urine is usually light colored. Reddish-yellow color may be due to santonin or chrysophanic acid, and can be detected by alkalies turning it red. Urine of fevers is nearly always highly colored, concentrated and clear. In jaundice the urine is brown, or tinged with green from bile. Smoky-brown color to almost black may be from blood, in which case the deposit will contain corpuscles. Carbolic acid or creasote internally turn the urine dark, and senna renders it brown.

Reaction.—The acidity is due to acid sodium phosphate. After a full meal the urine is often alkaline, and this is called the "alkaline tide," while the "acid tide" occurs after a fast. In acute rheumatism and fevers the urine is highly acid.

Albuminuria.—After excessive exertion or exposure the urine may contain traces of albumin. In Bright's disease the amount present rarely exceeds 1 per cent., and Esbach's albuminometer is only graduated to 0.7 per cent. The author mentioned that he had recently examined a sample which contained 2.4 per cent. of albumin. Only two ounces of urine had been passed and it was simply loaded with albumin and casts. The separation of albumin and globulin, which occur together in albuminuria, may be effected by estimating first the total proteids in Esbach's albuminometer. Then a portion of urine is saturated with magnesium sulphate, filtered, and the filtrate estimated for albumin. The difference in the two results, after allowing for increase in volume from the magnesium sulphate, represented the amount of serumglobulin precipitated by the sulphate. When blood is present, as in inflammation of the kidneys, the serumglobulin is in excess.

The recently introduced tests for albumin were next described. Trichloracetic acid was strongly recommended, it being stated that it detects 1 part in 100,000 of urine with ease. Its reaction with alkaloids should be observed. On adding a few drops of trichloracetic acid test to urine containing quinine, a precipitate is produced which is soluble, either by heat or by large excess of the reagent. Trichloracetic acid has been shown to detect albumin when it was dissolved by acetic acid and not precipitated by picric acid or by heat. In the milk treatment of Bright's disease no albumin coagulable by heat remains. Nitric acid gives a precipitate, soluble in excess, and saturated salt solution gives a precipitate increased by the addition of acetic acid. This was due to the convertion of albumin into albumose. Spiegler's test is very delicate, and does not precipitate peptone, but behaves with alkaloids in the same manner as trichloracetic acid. It is prepared by dissolving mercuric chloride, 8 parts; tartaric acid, 4 parts; glycerin 20 parts; in water, 200 parts. The urine is first acidified with acetic acid, and filtered from mucin.

Salicylsulphonic acid had been recommended by Dr. Williams, as it precipitates one part of albumin or globulin in 100,000. Albumoses and peptones are also precipitated, but dissolve on heating. It was pointed out that the heat and acetic acid test, very commonly employed, will give a precipitate when the patient is taking tolu, balsam of Peru, etc. This is due to precipitating the resin, but as it is soluble in alcohol there need be no difficulty in recognizing it.

Peptonuria.—If peptones are present it is an unfavorable symptom. The biuret reaction (trace of copper sulphate and excess of potash giving a red color) and precipitate with picric acid, soluble on heating, are also obtained with acid albumin. It is, therefore, necessary to add acetic acid, saturate with ammonium sulphate, filter and test filtrate.

Glycosuria.—Fehling's solution is reduced by other bodies besides dextrose. Uric acid accounts for fully one-fourth of the reducing action of non-saccharine urines, while creatinine, hippuric acid, etc., have also a similar action. Internal administration of chloral, camphor, etc., was formerly stated to produce sugar in urine, but it is now known that glycuronic acid is the body present. In diabetic urines there is not much difficulty, as the quantity of sugar is large, usually over 4 per cent. It is with samples containing only about ½ per cent. of reducing substance that care must be taken to ascertain if due to dextrose or glycuronic acid. The latter has very little clinical importance. To make sure as to which is present the fermentation test is used for conformation, as glycuronic acid is not affected.

Mr. A. W. Gerrard's patent "Glycosometer" was exhibited at this point, and an estimation of diabetic urine performed with it. The diluted urine runs from a special burette into the boiling Fehling's solution, and when the color is discharged the level of the urine in the burette represents the percentage of sugar. It was pointed out that although the end reaction was not so sharp as with Pavy's method, the absence of ammoniacal fumes was a considerable advantage.

Urea.—The average amount of urea present is 2 per cent., but is increased in fever and diabetes, and decreased in chronic and wasting diseases. Mr. Millard then defended the hypobromite method of estimating urea against the views expressed quite lately in the *Lancet*.

Uric Acid.—The high results of Haycraft's method of estimating uric acid are due to the precipitation of compounds of the xanthine group. Uric acid, according to Sir W. Roberts, exists as quadrurates, which are decomposed by the phosphates with liberation of uric acid. In gout the excretion of uric acid is diminished owing to its accumulation in the tissues. The appearance of the concretions in joints, as in gout and rheumatism, was next described, and Dr. Haig's experiment on the excretions of uric acid during the administration of salicylate of sodium.

Hæmatoporphyrin in urine had been stated to be due to the administration of sulphonal, but Dr. Adair had informed the author that at the Wadsley Asylum, where the drug was given in 70 grain and 80 grain doses, no case had been observed.

Urinary Sediments.—Pus, and its appearance in alkaline and acid urine, was described. The addition of acetic acid renders the nuclei more apparent for microscopical examination. Mucus was distinguished from pus by its behavior with acids, alcohol and alum. To separate the two, precipitate pus with mercuric chloride, filter and add acetic acid, which precipitates mucus.

Casts may be granular, hyaline, epithelial, fatty or blood, according to their composition and contents. Cylindroids were also described, and the microscopic appearance of these was given. A useful method for recognizing epithelial *debris*, casts, etc., was to add a drop or two of solution of methylene blue to the deposit, before examining under the microscope.

SPUTUM.

The chemical composition of sputum is mucin 2; albumin and fat, 1; extractives, 2; salts; 1; water, 94.

In bronchitis it is yellow and tenacious, in phthisis it may be tinged with blood, in pneumonia it is rusty-brown and in the last stages becomes purulent. Sputum of bronchitis is very watery, while that of pneumonia is ropy.

The detection of yellow elastic tissue in sputum is very important. A small quantity of sputum is boiled with an equal volume of caustic soda solution, containing 20 grains in a fluid ounce. When the liquid is quite fluid it is diluted with water and placed in a conical vessel. After some times the undestroyed tissue

* Condensed from the *British and Colonial Druggist.*

is taken out with a pipette and examined microscopically. The tissue is nearly always present in acute phthisis, while in the more advanced stages fragments will be present.

For the examination of tubercle-bacilli the expectoration should be collected before breakfast. The opaque, white particles will be found most frequently to contain the bacilli. The method used by Mr. Millard for the detection of tubercle bacilli appears to be a modification of Crookshank's and is as follows: With the aid of a scalpel a particle is placed on a clean cover glass, and a second cover-glass applied face to face with a slight rubbi g pressure, so as to insure a thin even layer on each. Slide the glasses apart and dry by gently warming. Holding the cover-glass film upward it is passed several times quickly through a Bunsen flame to coagulate the proteids. Some carbonic fuchsine is heated in a watch glass, and the cover-glass floated in it, film downward, and allowed to remain at least ten minutes. It is then removed and immersed in diluted sulphuric acid, containing about 20 per cent. of acid. Wash well in water, and if more than a light red color remains, decolorize again in acid and wash with water. Place two or three drops of solution of methylene blue on the film, allow to remain two or three minutes, and wash well with water until no more color is removed. Dry thoroughly by warming, and mount in xylol-balsam.

Production of Castor Oil in India.

The United States Consul at Calcutta in a late report says that there are three processes by which castor oil is extracted in the Madras Presidency. (1) The seed is roasted in a pot, pounded in a morter, and placed in four times its volume of water, which is kept boiling. The mixture is then frequently stirred with a wooden spoon. After a time the pot is removed from the fire and the oil skimmed off. The residue is then allowed to cool, and next day is again boiled and skimmed. The oil thus procured is superior to that first obtained, and is kept separate. (2) The seed is first boiled, and then dried in the sun for two or three days. It is then pounded, and the further process is as in the first method. (3) The seed is soaked for a night in water, and next morning ground in the ordinary native oil mill. The oil is removed by putting the pulp into a piece of cloth and then squeezing the oil into a pot. This oil is used for lamps and dyeing purposes. In Bengal the castor seeds are partially roasted in a pan and pounded in a mortar without being husked. The stuff so prepared is mixed with water and placed in an earthen pot or jar over a fire, the quantity of water used being two or three inches above the level of the crushed seed. As the water evaporates, the oil rises to the surface, and is then poured into another vessel. The jar is then removed from the fire and allowed to cool, after which some cold water is added to the mixture, when the jar is placed in the sun. The oil still remaining in the mixture then appears at the top, and is removed by hand. The oil thus obtained is boiled again in a separate pan, by which process any moisture and all other extraneous matter are eliminated, and the oil becomes purified and fit for consumption in lamps. There is another process for the extraction of oil from castor seeds followed by the people of the Bengal Presidency, which differs but very slightly from that already described. In this method the seeds are boiled with water before being pounded. When they become soft they are placed in the sun, and when dry are crushed. The following processes are adopted by one of the manufacturers in Calcutta in extracting oil from the castor bean. (1) The seeds are first cleaned with the hand by women. They place a quantity of seed on a smooth board, and with a flat wooden mallet give them one or two strokes, which breaks the seeds into two or three pieces, thus rendering the separation of the husk easy. The broken seeds are then winnowed with a common basket winnower, which removes the husk from the kernel. The kernels are then dried in the sun and afterward broken by a crushing machine. They are then put in small canvas or gunny bags, and pressed in a hand machine, the oil falling into a pan placed underneath. The oil is collected in large galvanized iron vats, and bleached by exposure to the sun, which also causes the sediment to precipitate. It is next boiled, in order to evaporate any remaining moisture; vegetable charcoal is added to it, and the oil is then filtered through flannel or blotting paper. The oil thus obtained is of the purest quality, used only in medicine, and is manufactured to order. No fire is applied during the pressure, and therefore no irritating part of the seed finds its way to the oil. The yield, however, is 10 per cent less than that obtained by the following method. In this the seeds are husked, crushed and pressed as before. At the time of pressing, fire is placed under the machine, the heat from which liquefies the oil and increases the yield, with which, however, a certain portion of the irritating or injurious part of the seeds is mixed. It is then bleached and boiled as before, and filtered with the addition of animal and vegetable charcoal. Some of the jails in India employ many of the prisoners in the manufacture of castor oil. The cleaning and grading of the seeds are done by females, who first remove all extraneous matter, such as dust, pebbles and foreign seeds, and who then, by means of seives with different sized meshes, grade the seed into four sizes. The splitting of the shell is done with a machine, which consists of two smooth iron rollers placed parallel to one another and working toward one another. It is worked by hand by a simple arrangement of cogwheels. One of the cylinders or rollers is fixed, the other is movable by a screw adjustment. By means of the latter contrivance the space between the cylinders can be regulated to the required distance. The space is increased or diminished according to the size of the seed about to be split. A wooden box is placed above the cylinders to hold about eight or ten pounds of seed at a time. These cylinders are about two feet long, so the process of splitting goes on very rapidly. The seed is passed on to the winnowers, who separate the husk from the kernel on large masonry platforms. Sunning is a very necessary step in castor oil manufacture, not only to dry any moisture there may be in the kernel, but to liquefy and facilitate the exit of the oily matter. When the kernel is crushed it is put into canvas bags, which are placed alternately with iron plates into the screw press. As pressure is applied to the canvas bags, the oil oozes out of them into a trough placed below. At the back of the press a fire is kept up to facilitate the exudation of oil. Each canvass bag holds about a pound of crushed kernels, and each feed of the press requires from one hundred and thirty to one hundred and fifty such canvas bags. The thick slimy oil thus obtained is passed into the hands of the boilers, who, mixing it with water in the proportion of forty parts of oil to from five to eight parts of water, boil it in large copper pans. The boiling of the oil is, perhaps, the most delicate process of the manufacture. To know exactly when to stop the boiling is a point of knowledge acquired by great experience. Thermometers were at one time used, but the results were not so satisfactory, and the boiler is now guided by the eye and by his sense of touch. The castor oil plant is largely cultivated in Assam to feed the silkworm. An excellent paper pulp is made with the bark from the stems. The oil is frequently used by the Indian dyers, and it has the reputation of being one of the best for dressing tanned hides and skins. It is also used for lubricating all sorts of machinery, clocks, watches, etc. It is said to be the best lamp oil in use in India, giving an excellent white light, vying in brilliancy with electricity, far superior to petroleum, rape seed and all other oils, whether vegetable, animal or mineral. It is used very extensively by the great perfumers in their articles of manufacture, and it enters largely into the making of some kinds of varnish. At the Allahabad East Indian Railway Station the lamps are lighted with the gas obtained from the castor oil cake, which has been found to be an excellent material for the purpose. This cake is also highly esteemed as a manure; and it is stated that castor oil and bone meal mixed together form a better fertilizer for sugar cane than either of these manures alone. In the years 1891-92 the quantity of castor oil exported from India amounted to 3,273,980 gallons, of which the United Kingdom took 1,384,745 gallons.—*Journ. Soc. Arts.*

Poisoning by Vanilla.*

By James C. White, M.D.

Poisoning by vanilla pods or beans, in the countries where this plant is cultivated, is reported as not very infrequent among the workmen. This plant is cultivated in Mexico, Central America, and the West India Islands, and also in the East. It grows best in Mexico. The beans are collected, put through a "sweating process," are turned frequently under blankets, and sometimes submitted to artificial heat until they assume a dark chocolate or blackish color. In handling these pods many of the workmen have a dermatitis produced upon their hands and face, and this inflammation of the skin has been attributed to two causes. An acarus affects the pods, and formerly these cases were attributed to the irritative action of this little insect upon the skin But this is very improbable because the inflammation comes on too rapidly, and is of a different type from that produced by the presence of any animal parasite upon the skin. In the best variety of pods no artificial means are used for coloring them When I was writing upon this subject a few years ago I took occasion to visit the establishment of Mr. Burnett, and inquired about the workmen employed in his factory. He said that no cases of vanilla poisoning had ever occurred there, and he attributed this immunity to the fact that he used only the highest quality of pods. The greatest care is taken in the care of the highest-priced pods, and after they reach the United States they undergo often an additional treatment, if they are not quite cured. They come in sealed tin boxes. Now in the lower qualities of

*From a paper read before the Suffolk District Medical Society.

pods it is known that an artificial method is used for coloring them black, and that the material used is the oil found in the rind of the cashew nut, called cardol. This nut is the fruit of *Anacardium occidentale*, and is grown in the West Indies largely and eaten both raw and roasted. The oriental species is called the Indian marking nut, as it has the same property of turning black any substance with which it comes in contact that the juices of the poisonous forms of *Rhus* possess, and it has likewise the same poisonous quality that they have, so that many cases of poisoning are produced by persons handling these nuts without sufficient care. Charles Kingsley, in his work on the West Indies, describes several cases where cooks and others have been poisoned by roasting them. Cardol is used to color the poorer qualities of vanilla pods, such as produced poisoning in a patient who recently came to me suffering from dermatitis venenata. They are of the poorer variety, and are worth about four dollars a pound, whereas specimens of the best qualities are worth about twelve dollars a pound. The color of both is about the same, but there is no doubt, I think, that these poorer ones have been colored by cardol.

Baking Powder Recipes and Suggestions.

At the special request of several brother pharmacists the following recipes for baking powders are suggested, with the cost of making them. These figures are based upon the tartaric acid selling by the ton at 25c. a pound, cream of tartar at 22½c., acid phosphate of lime at 7½ cents, dried alum at 4½ cents, starch at 2½ cents, and bicarbonate of soda at 3⅛ cents. That these powders should keep well each ingredient should be first thoroughly dried by a gentle heat, and they should be kept securely closed in dry fruit jars, corked bottles or sealed cans.

1.

Tartaric acid	1 pound
Bicarbonate of soda	1 pound
Starch (powdered)	½ pound

Costs about 11¾ cents a pound.

2.

Cream of tartar	2 pounds
Bicarbonate of soda	1 pound
Starch (powdered)	¾ pound

Costs about 13⅓ cents a pound.

3.

Acid phosphate of lime	1½ pounds
Bicarbonate of soda	1 pound
Starch (powdered)	1¾ pounds

Costs about 4¼ cents a pound.

4.

Acid phosphate of lime	2 pounds
Dried ammonia alum	2 pounds
Bicarbonate of soda	3 pounds
Starch (powdered)	5 pounds

Costs about 4 cents a pound.

5.

Dried ammonia alum	1 pound
Bicarbonate of soda	1 pound
Starch (powdered	1 pound

Costs about 3½ cents a pound.

To the above cost should be added the cost of the containers and the time consumed in doing the work.

The ingredients, all finely powdered, should be first sifted separately to get rid of all lumps, then the soda and starch should be well mixed together, and finally the acid ingredients should be added, and all thoroughly incorporated, either by rubbing together in a mortar, or by sifting at least three times. Flour can be used in place of starch, and is considerably cheaper.—GEORGE F. PAYNE in *Proceedings of Georgia Pharmaceutical Association.*

Solution of Bromide of Gold and Arsenic.*

Considerable attention has of late been directed to a so-called "compound solution of bromide of gold and arsenic" (Liquor Auri et Arsenii Bromidi), the formula of which is kept a secret (?).

A short time ago such a solution came to my notice. It was transparent and of a beautiful red color. The addition of arsenious acid solution caused it to become colorless, and after some time a metallic precipitate formed. According to the label attached to the bottle, each ten drops represented $\frac{1}{3\frac{1}{3}}$ grain of gold tribromide and $\frac{1}{16}$ grain arsenic tribromide.

It is an established fact that bromide of arsenic cannot exist in aqueous solution. If brought in contact with water it breaks up into arsenious and hydrobromic acids. Furthermore, a solution of gold tribomide cannot exist in the presence of arsenious acid. The latter by its reducing properties would precipitate metallic gold from its solution. It is, therefore, necessary to convert the arsenious acid into the arsenic state before the addition of the gold salt.

A solution like the one above described may be presented as follows:

Arsenious acid	18¾ gr.
Bromine water	q. s. or about 2¼ oz. troy.
Gold tribromide	24 gr.
Distilled water, enough to make	16 fl. oz.

Introduce the arsenious acid and 2¼ oz. of bromine water into a flask or porcelain capsule and heat gently until all free bromine has disappeared. Then add bromine water, 10 to 20 drops at a time, until it will be present in slight excess, or until the solution does not become colorless after some time. Expel the excess of bromine with the aid of a gentle heat, dilute to 16 fl. ozs., and dissolve in this the gold tribromide. The result, if the oxidation of arsenious acid is complete, will be a perfectly transparent red solution, 10 minims of which contain $\frac{1}{3\frac{1}{3}}$ gr. of gold tribromide and the equivalent of $\frac{1}{16}$ grain arsenic tribromide.

The oxidation of arsenious acid into arsenic acid by the bromine takes place according to the equation:

$$As_2O_3 + 2\ Br_2 + 5\ H_2O = 2\ H_3AsO_4 + 4\ HBr.$$

Snakes and Pharmacy.

A paper on this subject was read at a recent meeting of the Brighton (Eng.) Junior Association of Pharmacy by C. S. Ashton in which the author went as far back as two centuries B.C., giving numerous references and quotations from such ancient authorities as Musa (a Greek physician) and Andromachus, physician to Nero. He referred also to the origin of the symbol of the serpent entwined on a staff in the Pharmaceutical arms. The story runs that Æsculapius, the Grecian god of healing, was standing, staff in hand, by the bedside of Glaucus, when a serpent crawled into the room and twined itself on the staff. Æsculapius immediately slew the reptile, but had no sooner done so than a second serpent entered the room bearing a leaf in its mouth, crawled up to its dead comrade, and immediately restored it to life. Thereafter the serpent was connected with the science of healing.

Instances were also given of ancient and comparatively modern formulæ containing the viper, one such formula being embodied in the first London Pharmacopœia, about 1654.

* From *Notes on New Remedies.*

Queries and Answers.

We shall be glad, in this department, to respond to calls for information bearing on pharmacy or any of its allied topics, and cordially invite our friends to make use of this column.

When sending for the formula of an unusual, patented or proprietary compound, the query should be accompanied with information regarding the locality in which it is used, its uses, and reputed effect. When it can conveniently be done, a specimen of the label used on packages of the compound should also be sent.

Chemistry of Chloral Camphor.—F. A. B. would like to know what compound is formed when camphor and chloral hydrate are triturated together in a mortar, and requests us to express the equation illustrating the combination.

Opinions differ as to the character of the liquid formed by rubbing together chloral and camphor. While Cazeneuve and Joubert claim that the optical behavior of the compound proves that chemical combination has taken place, C. Schmitt (*Jour. Chem. Soc.*, May, 1892) asserts that the camphor is merely dissolved in the chloral and does not form definite compounds with it. This is not true of all camphors, however, as borneol and menthol form definite compounds with the formulas noted below:

Chloral Bornylate, $CCl_3.CH(OH).OC_{10}H_{17}$. This occurs in white crystalline plates which are insoluble in water but melt at 45-55°.

Chloral Menthylate, $CCl_3.CH(OH).OC_{10}H_{19}$, appears as a yellowish liquid of a somewhat lighter consistency than camphor chloral. It is insoluble in water.

Book on Diseases of Dogs. F. H. N.—There are a number of published treatises on diseases of the dog, besides the numerous articles which appear in works on Veterinary Medicine. Among the former which may be obtained through THE DRUGGIST AND RECORD or any medical book publisher are Howden's "Management and Disease of the Dog" ($2.00); Steel—"Diseases of the Dog" ($3.50); and Stonehenge "On the Dog in Health and Disease" ($3.00).

Miscible Elixir of the Phosphates.—M. J. G. writes: "Will you please publish in your next number a satisfactory formula for elixir, iron quinine and strychnine which will mix with water without becoming cloudy."

It is next to impossible to prepare an elixir of the triple phosphates with the use of the phosphate or pyrophosphate salts of iron, and when an elixir of the kind indicated is required it is much preferable to employ iron citro-chloride. The formula of the National Formulary (page 143) furnishes a clear, stable elixir of this kind, and we commend it to your notice.

Precipitate in Bay Rum. H. C., Charlestown, Mass., wishes to prevent the formation of the white precipitate in bay rum. If it is there already, filter through talc to remove. When the Pharmacopœia process of 1880 is used a little more alcohol is needed, and then allowed to stand a week or two with occasional agitation; then repeatedly filter through paper only.

Mistura Tussis. H. L. F., Glen Lyon.—In English this means cough mixture, and the varieties are numbered in millions.

Most probably you have fallen upon a prescription which was intended to go to a certain store and a private formula to be used; it is a famous trick.

Gelatine Prints. D. B., Brooklyn.—These are obtained as follows:

Bichromate of potash	1 part
Refined gelatin	10 parts
Water	100 parts

Alcohol if necessary to make an easy flowing mass. Soften the gelatin in cold water, then dissolve at 100° F. Dissolve the bichromate in warm water and add to the above, intimately mixing while hot.

This is now sensitive to sunlight, becoming insoluble in water after exposure. So all work must be done by lamplight or in a photographic dark room.

From the thick solution, while hot, flow some evenly and level over a glass plate suitable for the purpose needed, and have no air bubbles; allow to set, then dry in an oven at 120 to 140° F.

Now expose this film under a photographic negative, as though it were a sensitive paper.

Wash in warm water and you will find a positive picture in relief upon the surface of the film, because when light struck it is hardened; when observed it is soluble and washes out.

Druggists' Insurance. A. G. R., Oneonta, N. Y.—At present there is no co-operative druggists' fire insurance company taking risks in this State. There is a co-operative fire insurance company organized by retail druggists in Wisconsin, but this company has not extended its operations to this State.

Drug Store Licenses in New York City.—"Subscriber" asks what licenses are required to start a drug store in this city.

In the first place, a license must be obtained from the New York City Board of Pharmacy. This can be obtained either by examination before the board at its regular meetings, which occur at the college on the first Monday in the month, at 10 o'clock A.M., or by registration either on the certificate of some other board *in this State*, or of a college of pharmacy. The secretary of the board is Dr. William Balser, 218 East Thirteenth street. The fee for registration on examination is five dollars, for registration on certificate of any other board in *this* State two dollars.

A United States liquor license, costing twenty-five dollars, is also required, while under a recent enactment every druggist in the State is compelled to take out a druggists' liquor license, which costs thirty dollars per year.

Ink Erasers. J., Scranton, Pa.—The liquids now much sold as able to remove any kind of ink are—Solution of chloride of lime in water, solution of chlorinated soda U. S. P. or a slight variation, as published in our edition of Dec. 7. The other bottle is an acid, sometimes hydrochloric, acetic, or the old standby, oxalic.

Curling Creams. O. M. K., Beaver, Pa.—Curling creams, are similar to Bandalines of old. On December 14 a very full line of skin protectives was published, any one of these formulæ if made a little stiffer in its mucilaginomus base will answer for the purpose asked about.

Rubifoam and other liquid dentifrices have for foundation either soap or quillaya solution, sweetened, flavored, and colored to meet the demand.

No. 410 National Formulary	℥ i
Alcoholic solution of soap as made for soap liniment	℥ ii
Glycerin	℥ iv
Oil wintergreen	♏ ii
Oil sassafras	♏ i
Water to furnish	fl. ℥ vi
Tannin (if desired)	gr. x
Carmine or tr. cochineal	q.s.

Syrup Asaram Comp. C. A. F., Lancaster, Pa., desires a formula for syrup asaram compound.

It may be found as No. 352 of National Formulary.

Elixir Iron, Quinine and Strychnine — D. G., Minneapolis, Minn., wants to get an elixir from quinine and strychnine which will appear like a certain proprietary article. No. 65 National Formulary yields a nice product, which keeps well, looks fine, and is largely put up as elixir phosphate of iron, quinine and strychnine.

Campbell's Cholera Cordial. T. D., Paterson, N. J.—We do not know the composition of the preparation. An active stimulating cordial for use in Summer colic, severe diarrhœa and similar troubles is used in many cities from No. 41 National Formulary. If to be put up regularly it should be largely diluted, and catechu or kino may be added.

Witch-hazel Liniment. A. F. S—There is no more suitable witch-hazel liniment for internal and external use than the distilled extract of the twigs and leaves of witch-hazel. For use in veterinary practice an extract made with wood-alcohol or alcoholene would answer all purposes. The extract can be purchased from different makers in the Eastern States, whose names will be gladly furnished on application to this office.

Embalming Fluids.—F. W. requests a cheap and efficient recipe for an embalming fluid, also name and price of some good work on embalming. A saturated solution of sodium arsenite is regarded by most embalmers as the cheapest and perhaps the most efficient of embalming fluids. The compound known as Morell's Embalming Fluid is a solution of this kind, rendered slightly opalescent by the addition of carbolic acid. The formula is as follows:

Arsenous acid	14 oz. av.
Caustic soda	7 oz. av.
Carbolic acid	a sufficient quantity.
Water	enough to make 100 oz. av.

Dissolve the arsenous acid and the caustic soda in 40 ounces of water by the aid of heat. Allow the solution to cool, and add to it just enough carbolic acid to render it opalescent. Finally add enough water to make the product weigh 100 av. oz.

A valuable monograph on the subject of embalming appeared in the series of Wood's Monographs published by Wm. Wood & Co., West 10th street, New York City.

Bibliography.

A DICTIONARY OF MEDICAL SCIENCE. Containing a full explanation of the various subjects and terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Pathology, Surgery, Bacteriology, Ophthalmology, Otology, Larynxology, Dermatology, Gynæcology, Obstetrics, Pediatrics, Medical Jurisprudence and Dentistry, etc., etc. By Robley Dunglison, M.D., L.L.D., late Professor of Institutes of Medicine in the Jefferson Medical College of Philadelphia. Edited by Richard J. Dunglison, A.M., M.D. New (21st) edition, thoroughly revised, greatly enlarged and improved, with the Pronunciation, Accentuation and Derivation of the Terms. In one magnificent Imperial octavo volume of 1181 pages. Cloth, $7; leather, $8. Philadelphia: Lea Brothers & Co., 1893.

For sixty years "*Dunglison's Medical Dictionary*" has been the standard authority in medical thermology, and twenty-one editions have been required to meet the ever increasing demand. In no previous issue have the changes and additions been so great. Forty-four thousand new words and phrases have been added to place the work in conformity with the most advanced terminology of the time. Everything obsolete has been excised, yet the work contains about 100 pages more than its predecessor. The page has been enlarged, so that this great work is still comprised in a convenient volume. For the first time pronunciation has been introduced, being indicated by a simple and clear phonetic spelling. Derivation, an unexcelled aid to remembrance of meanings, is also thoroughly given. The full and explanatory definitions for which "Dunglison" has always been noted have been expanded to include much valuable and practical information not always easily found elsewhere. Thus, under Diseases are given their symptoms and treatment; under Drugs, their properties and doses; under Poisoning, the symptoms, antidotes and treatment. Numerous tables enrich the alphabet and place an immense amount of information clearly and conveniently at hand. Examples may be found in the tables of doses and bacteria. It is safe to call Dunglison's *Medical Dictionary* an indispensable book for students, practitioners, pharmacists, dentists and all concerned with any of the medicalsciences.

DUANE'S STUDENTS' DICTIONARY OF MEDICINE. The Students' Dictionary of Medicine and the Allied Sciences. Comprising the Pronunciation, Derivation and Full Explanation of Medical Terms, together with much collateral descriptive matter, numerous tables, etc. By Alexander Duane, M.D., Assistant Surgeon to the New York Ophthalmic and Aural Institute; Reviser of Medical Terms for Webster's International Dictionary. In one square octavo volume of 658 pages. Cloth, $4.25; half leather, $4.50; full sheep, $5. Philadelphia, Lea Brothers & Co., 1893.

Dr. Duane's experience as a lexicographer and his accurate scholarship are sufficiently attested by his position as Reviser of Medical Terms for Webster's International Dictionary. In the present work he has undertaken to provide medical students with full information concerning every word they will meet in acquiring their professional education. The vocabulary is exceedingly liberal, and its fulness is paralleled by the treatment accorded to each word. The definitions are of the "explanatory" style, including not only a statement of meaning, but likewise much descriptive matter under headings which would be inadequately represented by a definition however full. Thus, under diseases are given their causation, symptoms and treatment; under important organs, an outline of their structure and functions; under each drug, its actions, uses and preparations, the information being arranged in logical order, so as to give a rational and connected idea of the subject. Extensive tables of Bacteria, Muscles, Arteries, Veins, Nerves, etc., are included. Each word is followed by its correct pronunciation (a new feature in works of this class), given by means of a simple and obvious phonetic spelling. Derivation, an unexcelled aid to remembrance of meanings, is likewise fully and clearly stated, Greek letters being replaced with those of the English alphabet, for the convenience of those unfamiliar with Greek. The type has been carefully selected for legibility, and each page contains an extraordinary amount of matter. Duane's Medical Dictionary is executed on a plan embodying in a high degree every qualification of value to students, and we may therefore confidently predict that it will become the standard and favorite work of its class

The Funk & Wagnalls Co., New York, announce in a circular under date of Jan. 16 that the first edition of Volume I. of their "Standard Dictionary" has been covered by orders. Another edition is under way which the printers will push to completion as soon as possible.

News and Notes.

Random Notes of a Rambling Journey.—V.

SOUTHWARD FROM JACKSONVILLE.

The line of railroad south of Jacksonville is marked by an even sameness of outlook that is disappointing to tourists who have placed faith in the glowing and eloquent descriptions of Florida scenery distributed so freely by the enterprising land agents of the State. If picturesque scenery is to be found anywhere throughout Florida it must be looked for among its beautiful lakes and rivers. No picture of exotic or semi-tropical vegetation can be found anywhere in United States territory to compare with the views of forest verdure to be obtained on trips down the Ocklawaha and Indian Rivers. None of this is seen from the railroad cars, however, and the traveler who fails to ride freely into the interior and see things for himself will return with some very mistaken notions as to Florida scenery.

From Jacksonville to Palatka the train skirts the left bank of the St. Johns River, occasional glimpses of which are caught between tall pine and cypress trees, heavily draped with the soft clinging Spanish moss, which lends such an inexpressibly mournful and weird appearance to the landscape, besides exerting a depressing effect upon a person compelled to look upon them steadily for any length of time. Below Buffalo Bridge the train crosses the east bank of the St. Johns River and enters a portion of country that is regarded as one of the finest and most beautiful sections of Florida, and from which most of the oranges grown in the State are exported. Near Enterprise, a small town of some fame as a Winter resort, the train again crosses the St. Johns River at the point where it issues from Lake Monroe, and a few miles further south stops at Sanford, a thriving little city of 2,016 inhabitants. Being the practical limit of navigation on the St. Johns River and the junction of several railroads, Sanford is a city of some importance. Here I drove out to one of the large orange groves and witnessed the interesting operations of picking and garbling the fruit. Each orange is cut from its branch with a pair of short, stout scissors of special make. The proceeds of a day's collection are conveyed to the boxing warehouse, where the oranges are sorted into the different varieties of the market by an ingenious device consisting of two inclined wooden grooves or chutes, extending from a central platform and having outlets of different sizes through which the oranges pass and are conveyed to a series of boxes on benches arranged to right and left of the lesser chutes. Into the main chute on the left are thrown all sizes of the varieties of oranges known as "russet," while the receptacle on the right is reserved for "choice bright—"oranges of a clear bright color, unmarked by speck of brown. The resting place of each of the two varieties of oranges is then determined by its size, the small oranges passing through the narrow outlets near the top of the chutes and being conveyed along a tilted gutter to its appropriate box below, while the larger ones pass farther along, until an outlet large enough to permit of the orange passing through is reached. The average yield of a grove of 2,000 trees is about 1,500 boxes, the f.o.b. value of each box ranging from $1.50 to $1.75 according to the wealth of the year's crop. This year the first named is the ruling price, as the crop is unusually large. The planters frequently dispose of their crops on the trees, the buyers being at the entire expense of culling, grading and shipping. One grower told me that he had this year disposed of his entire crop in this way at the uniform price of 60 cents a box.

Sanford supports four pharmacies, the proprietor of one being both a physician and a pharmacist. The two leading pharmacists are W. G. Aldridge and A. E. Phillips, and the bulk of business is divided very evenly between them. Their stores are of fair size and appearance, and each does a general business in country supplies. Mr. Phillips is apothecary to the South Florida Hospital.

The druggists of Florida appear to be greatly deficient in appreciation of the labors of the A. P. A. Committee on National Formulary. Few of them possess a copy of this valuable manual, and many are oblivious of its existence. One would suppose that the circulation of literature on new remedies and recent additions to synthetic chemicals would contribute a very general knowledge of the appearance and properties of these agents, but I found the reverse to be true, and it may be that Florida does not figure in the subscription lists of the house organs whose editors make a specialty of disseminating this kind of information. I was in a Florida pharmacy whose proprietor has figured quite conspicuously as a contributor of essays at pharmaceutical meetings, as well as a writer on galenical pharmacy, when a customer handed in a plainly written order for chrysophanic acid and was astonished to learn that the substance was unknown in that pharmacy. The clerk showed me the order as a conspicuous example of illegible writing and was disposed to question my assertion that the article demanded was a misnomer of *Chrysarobin*, an official substance of whose existence he was alike ignorant. Every day I receive fresh proof of the value of the suggestion contained in the editorial entitled "Profitable Entertainment at Pharmaceutical Meetings," which appeared in the November 23 number of THE AMERICAN DRUGGIST AND PHARMACEUTICAL RECORD. When it comes to buying close, however, the Florida pharmacist is, to use the vernacular, "strictly in it."

Many flattering testimonials to the value of the "Weekly Review of the Wholesale Market" as an aid to close buying have reached me through traveling salesmen and others. THE DRUGGIST AND RECORD is the best and only guide to the state of the New York drug market, and no traveling salesman considers his equipment complete without it, because the majority of his customers make a point of buying their goods at the figures quoted in the wholesale price list as printed in the special issues. As a guide to market fluctuations the weekly "Original Package Prices" are constantly referred to. Many stores are sold annually in the State of Florida at figures based on the monthly prices current of this paper, the figures there being accepted as the prices at which retailers usually purchase their supplies.

THOS. J. KEENAN.

Wm. Baker, Jr., of the firm of Baker Bros., manufacturers of glassware, etc., Baltimore, has been in town during the week. He was accompanied by his wife.

Gotham Gossip.

The rooms of the German-American Apothecaries' Society at 194 Third avenue, this city, were invaded last Thursday evening by an enthusiastic gathering of Interstate Leaguers who had come together at the invitation of the president for the purpose of discussing the preliminaries of the next special meeting of the League as well as with a view of arousing more general interest in League affairs, and to increase the membership of the local branch. The number of names on the membership roll of the New York branch now amounts to something like 340, but as only one-half of these have paid their annual dues the present voting strength of the branch at a general convention only stands at 1½.

The meeting was opened by Charles A. Osmun, president, who explained the object of the gathering and urged the members present to do their utmost to make a success of the special convention of the League, which is to be held at the Ionic Room, Terrace Garden, 147 East 58th street, on Tuesday, February 6, at 10 A.M.

He was followed by Victor Kostka, State executive, who spoke at greater length on the objects of the meeting and made a number of important suggestions with reference to proposed amendments to the constitution and plan of the League, which were received with evident approval by all present. He suggested that efforts be made to reach the cutter through legislation and said: "The distribution of remedies containing potent drugs should be restricted to the legal purveyors of remedials, this being demanded as much in the interests of public safety as for the protection of the rights of druggists." M. F. Bender, who is treasurer of the branch, took a prominent part in the discussion which followed. Himself a prosperous pharmacist, he is deeply impressed with the benefits likely to accrue from a wider adoption of League principles, and only regrets that a larger number of the downtown druggists cannot be brought to see things in the same light.

Before the meeting closed a motion was adopted providing for the appointment of district committeemen, whose duties should consist of visiting druggists in their respective districts who are not already affiliated with the League, with a view of securing their attendance at future meetings.

It was also resolved to hold another meeting preliminary to the special convention. This meeting will be held on Monday, January 29, in the rooms of the German Apothecaries' Society, 194 Third avenue, and should be largely attended.

The following are accessions to membership in the local branch noted at last Thursday's meeting:

W. F. Brandt.
I. Garfield.
Wm. D. Corcoran.
Alex. Gunsburg.

New York City Board.—At the last examination the following passed: Archie S. Dennison, Fred. Falk, Chas. Tyson, J. Henry Wurthmann, Nathan N. Lewis, Jas. Ars, Moses Katz and Felix Krumbholz. During the month 20 pharmacists were registered. The board sustained a severe loss in the death of Dr. O. G. Harrison, last Sunday, after an illness of a few days. He was present at the last examination of the board on January 8.

The old established pharmacy of Theodore Angelo, at Fourth avenue and 31st street, this city, has recently changed hands, being now owned and conducted by the firm of Reeder Bros., composed of G. T. and A. J. Reeder. They are both young men of ability, and their venture cannot fail of success.

J. Colp, of 209 Bleecker street, is one of the few New York druggists who has not felt seriously the general decline in business. His store presents a prosperous appearance, and the other evening, when a representative of the DRUGGIST AND RECORD called, he was busily engaged in putting away the stock of a brother druggist who had succumbed to the pressure of bad times. Mr. Colp has an able assistant in the person of Harry Heller of the editorial staff of the *Alumni Gazette*.

The drug store of Max H. Richter at Jamaica, L. I., has changed hands twice during the past six months. The pharmacy was disposed of to Wm. Gilbert, of Jersey City, in September. He did not make a success of his venture, and a week ago Mr. Richter foreclosed on the mortgage and resold the premises to his former assistant, Dr. George S. Jager. Mr. Richter himself is a leading light in the Columbia Pharmacal Co., of New York City, with laboratories at Versailles, Conn.

OBITUARY.

DR. O. G. HARRISON.

The New York College of Pharmacy suffers a severe loss in the person of Dr. O. G. Harrison, instructor in botany, pharmacognosy, and materia medica, who died very unexpectedly, after a short illness, on the evening of Sunday, January 14. He was taken ill on the preceding Tuesday with severe abdominal symptoms, from which he afterward partially recovered. The nature of his disease could not be determined until Sunday morning, when the indications of intestinal rupture became unmistakable, and an operation was at once performed. A successful result was, however, quite hopeless, and the doctor died at half past nine the same evening. He was conscious almost throughout, and was perfectly calm and ready for death.

Dr. Harrison was an able scholar, both at the College of Pharmacy, where he was graduated in 1890, and at the college of Physicians and Surgeons, where he was graduated in 1891. In order to fit himself more particulary for pursuing the study of the structure of drugs he worked assiduously athistology during the past Summer under Professon Penhallow, at the Harvard Summer School of Science. In addition to his positon at the College of Pharmacy. Dr. Harrison was the highly appreciated assistant of Dr. R. W. Wilcox at the Post Graduate Medical School, a member of the New York City Board of Pharmacy, and the editor of the *Journal of the Alumni Association, C. P. C. N. Y.*, the first number of which was just about to be published. His untimely death, just when the increasing prosperity of his college seemed about to usher him into a brilliant career in his chosen line of work, must appear exceptionally hard to his relatives and friends, particularly to his young widow, to whom he was married less than a year since. As a son and husband Dr. Harrison appeared to have approached about as near as possible to the ideal. His character as a man was singularly modest and quiet, yet dignified and strong, and he was a Christian of the sort to make even the fixed unbeliever pause and wonder if after all there was not something distinctive in the Christain character.

Massachusetts Notes.

Hubert P. Whitmarsh, representing Dodge & Olcott, is located at 118 Milk street.

John H. Gilmore, formerly with Perham, of Lexington, is now clerking for C A. Charles, of Malden.

By a recent fire in Canton, John W. Terrell's stock of drugs was damaged $1,000; insured for $2,000.

Mead, Boyden & Co., wholesale dealers in druggists' sundries, 176 Devonshire street, have assigned to Daniel C. Knowlton; liabilities estimated at $10,000.

Fall River has had a large fire, but only one druggist suffered thereby and that was Charles A. Baker, one of the principal druggists of that city. Mr. Baker's stock was valued at $8,000, the most of which he succeeded in moving.

Andrew P. Preston, of Portsmouth, N. H., has been making a display of his popular specialties in one of Carter, Carter & Kilham's windows. Perfumes were shown in great variety, attractively labeled, and in containers of many styles. The famous smelling salts from "Preston of New Hampshire" played no small part in this exhibit, which has been favorably commented upon by Hub pharmacists.

One of the most pleasant and best attended meetings of the Alumni Association of the M. C. P. was held at the college building on the evening of January 17. The feature of the evening was a talk on "The Methods of the Investigation of Gases." Dr. Augustus H. Gill, of the Massachusetts Institute of Technology, was the speaker of the evening. The doctor is an authority upon this question and gave a successful and instructive demonstration of the analytical methods employed in this branch of chemical research. Much credit is due to the officers of this association for the series of talks which they have arranged, and the members can show their appreciation in no better way than by a generous attendance at the remaining meetings.

Charles R. Kirby, a Worcester drug clerk, has been charged with being a fugitive from justice, but a recent hearing of the facts in the case failed to sustain the charge and he was discharged. During the trial it was learned that Kirby was formerly one of the excise commissioners of Vineland, N. J., which commission had the power to grant liquor licenses. The inhabitants of this place were opposed to liquor selling, and when the Supreme Court recently declared the commission unconstitutional the liquor dealers immediately brought suit agasint its members for extortion. This movement was successful and two members of the commission were arrested in New Jersey, prior to Kirby's arrest. In ordering his discharge the court stated that Kirby was not a fugitive from justice, and that the only way for the New Jersey authorities to secure him was by requisition papers.

Our daily press still continues the dissemination of patent medicine and "cut rate" news, though recently, it must be confessed, a disposition has been shown in some of the articles to treat the "retailers' combine" more fairly. The circulars of President Canning, of the Interstate League, and of President Stiles, of the local branch, have both been summarized and commented upon, and the recent meeting of the Apothecaries' Guild received its share of attention. This war of words on the part of the "cutters" seems to be carried on mainly by three of the principal dealers, namely: Houghton & Dutton, proprietors of a large department store, and Harlow E. Woodward and C. P. Jaynes. A perusal of the interviews which emanate from these sources, and comparisons of the same with the advertisements of these concerns, demonstrate that the former are but a continuation of the latter. A peculiar feature of the "cutters" argument, an inconsistent one, is the concern which they profess to show for the welfare of the wholesaler, and it is alleged that the jobbers' connection with the Detroit plan is "suicidal policy." If this be true, as well as the boast of the "cutter" of the ease with which goods can be secured from proprietors, why then should the "cutter" be exercised as to the jobbers' interest? Is not this a confession of weakness? The meeting of the Apothecaries' Guild, which was held on 12, was most creditable to Boston pharmacists both in point of numbers and in enthusiasm. Delegates were appointed to attend the coming New York meeting and many favorable reports were received from other Eastern branches. The retailers of Springfield are being organized and will send a delegation to New York Providence and Worcester will do likewise, and it is expected that Lowell will take similar action. New Hampshire now has three active branches of the League, and some delegates from that State are assured. New England pharmacists are much interested in the success of this coming convention.

Michigan Mention.

Harris & Savage, druggists at Vanderbilt, have made an assignment for the benefit of their creditors. No statement of assets or liabilities has been made.

Miner E. Keys, a graduate of the Philadelphia College of Pharmacy, will shortly start a drug store corner of E. Fort street and Campau avenue, Detroit.

The suit of the State Pharmacy Board against Albert F. Meloche of Belding, who was charged with personating his brother and thus obtaining a druggist's certificate, has resulted in Melroche's acquittal.

The Brown Pharmacy Company filed articles of incorporation last week at Detroit with a capital stock of $10,000, of which $5,000 is paid in. The incorporators are William J. Brown, James G. Donnelly and George. W. Brown.

E. C. Kinsell, pharmacist at 752 Michigan avenue, Detroit, will soon occupy the new quarters at 26 Michigan avenue, which is in the heart of the city. S. F. Trizelle, who formerly occupied this store, is now located at 4 and 6 Gratiot avenue.

The Detroit Metric Granule Company elected the following officers last week: President, William A. Gavett; vice-president, George Dingwall; secretary and treasurer, James C. Wheeler; manufacturing department, Fred. H. Wheeler, and medical adviser, Dr. O. W. Owen.

The annual meeting of the Antrim Chemical Company and the Burrell Chemical Company, whose works are located at Antrim, was held last week at Detroit. The following officers were elected: President, Joseph H. Berry; secretary and treasurer, Lee Burt; and manager, Ebert J. Burrell.

An attempt was made last week to rob the drug store of C. K. Trombly at Detroit by breaking a rear window. The noise of falling glass attracted a policeman, who arrested Fred. Klix, Theodore Conture and William Singer. Klix was tried and sentenced to forty-five days' imprisonment. The other two will be tried later.

At the annual meeting of Parke, Davis & Co. the resignation of J. B. Russel, superintendent of the works, was handed in and accepted. J. T. Smedley was elected to fill his position on the board of directors, and Treasurer Henry Wetzel is the new superintendent. Mr. Russel will go to New York about February 1 and will associate himself with A. J. White, capitalist. He still retains his stock in the Detroit firm. He has held the position of superintendent for five years and was highly successful.

Pennsylvania Pharmacists.

Druggist Kline is now doing business in his new store on Main street, Wilkesbarre.

The drug store of E. S. Robins, Jr., & Co., at Wilksbarre, was recently closed by the sheriff.

Wilson & Work's drug store at New Florence was robbed of a lot of goods and some money recently.

John Harrington, son of Captain Francis H. Harrington, of Boston, Mass., is located in the drug business at Stoughton.

Jacob M. Baer has been admitted as partner in the drug and apothecary business of James T. Shinn, Philadelphia.

Burglars entered the drug store of Dr. Hotchkiss, at Edinboro. The safe was blown open and $200 in money was stolen.

The Kirwan drug store on East Market street, Scranton, has been purchased by Edward Reap, of Pittston, and will henceforth be conducted by him.

The drug store of C. W. Nick, Erie, was burglarized recently. A Flobert rifle, a dozen razors, boxes of cigars and a small sum of money were stolen.

J. H. Kirk's drug store, Seventh street and Concord avenue, Chester, is rapidly being roofed, and when completed will be one of the handsomest drug stores in that city.

Owing to ill health William Camm, the well known De Kalb street druggist, Norristown, has sold his business to William H Campbell, of Philadelphia.

Southern Siftings.

W. S. Johnson has purchased the drug stock of W. F. Grasty, of Henderson, Ky.

J. G. Weatherford has sold his drug store in Hustonville, Ky., to Felix B. Twidwell.

The turpentine firm of Peacock & Kemp, of Homesville, Ga, has changed to Peacock & Myers.

Sherry & Wormwood, druggists of Rochester, N. H., have made an assignment in favor of John Sherry of Dover.

The drug stock of McKay & Adams, Tyler, Tex., has been attached by the Meyer Drug Company, of St. Louis, Mo., for a debt of $4,000.

A. E. Keisling, well known of late of the firm of Hertz & Keisling, druggists of Houston, Texas, has purchased the Lankford drug store, and is putting in a complete stock of drugs and chemicals of all descriptions.

C. T. Nevin's drug store, Halifax, Nova Scotia, was recently entered by burglars and goods worth about $100 were stolen.

Why Mr. Hogey Got No Gas.

J. H. Hogey, the popular south side, Chicago pharmacist, has a servant Bridget, who is very industrious. While Bridget was washing off the steps of Mr. Hogey's Vernon avenue residence along comes an employee of the gas company, who wishes to enter the house to read the gas meter. He had a thick book under his arm, in which he is wont to register the figures of the various meters which he examines. Unfortunately, he is an Englishman, with a pronounced cockney accent, and this is the conversation that followed:

"Good morning, madam. Ah would like to read the gaas bill."

"I've to cuke the breakfast, an' have no time now to listen to the gospel."

"But it's me juty, good woman. I must read the gaas bill an' you must let me. Allow me to enter."

"Divil a sthep. Come agin when I've no worruk an' I'll listen to yer gospel."

The gas man reported that he was not allowed to enter the residence and the company removed the meter before the error was discovered.

Dr. Guido Bacelli, who has accepted the portfolio of Public Instruction in the new Italian cabinet, is one of the ablest members of the new government. He held the same office under the previous administration, and his discharge of its duties was characterized by a brilliant and vigorous policy. Dr. Bacelli is the professor of clinical medicine and president of the Aaccdemia Medica in Rome.

Bromidia has been the cause of a death in a London hospital. A nurse gave an ounce and a half of it to a patient instead of a drachm and a half.

CORRESPONDENCE.

Otto of Roses.

Editor of THE AMERICAN DRUGGIST AND PHARMACEUTICAL RECORD:

As we believe that America takes about one-third of the total quantity of otto of roses produced we have no doubt that a summary of the results found on testing some samples of this article in our laboratory will prove of interest to the trade generally. The heavy advance in the price of the new season's crop will without doubt tend to encourage adulteration of the article, the chief agent used for this purpose being the so-called "Indian Geranium Oil"; alcohol, spermaceti, and paraffin being also added more or less, in the endeavor to bring the freezing point and S. G. of the adulterated article nearer those of the pure otto. In fact, to such an extent had the use of geranium oil for this purpose grown that five years ago the Bulgarian Government refused to allow it to be imported, although the temptation to obtain a high price for an adulterated article still leads, however, to considerable quantities being imported *sub rosa*.

The following are the specific gravity, freezing point and rotatory power of three samples of otto, Nos. A and B being those of a large grower, and can be taken as indicative of what a pure otto should be, while sample C is that of another large dealer, representing his new season's crop:

	Sample A 1892.	Sample B 1893.	Sample C 1883.
Specific gravity....	.855	.853	.859
Freezing point....	21° C	21.2° C	20° C
Rotatory power 100 MM (D).....	−2.5° to −2.7°	−2.5° to −2.7°	−1.5°

In the above tests the specific gravity was taken at a temperature of 86° F. (30° C.) the temperature usually employed in Bulgaria. The variation of sample C from the standard of purity as shown by A and B can be accounted for by the fact that it is impossible to put even 5 per cent. of geranium oil in otto without changing the S. G., as the S. G. of the former oil is between 0.890 and 0.895, while pure otto is .850 to .855. "Indian geranium oil" also lowers the freezing point materially, and as regards rotatory power, while genuine otto possesses a lævorotatory power of say −2.5° to −2.8°, geranium oil is almost inactive, according to our experience (although one authority gives a rotation of (−0°.20'); consequently the addition of geranium oil will decrease the lævorotatory power.

We regard the polarimeter as practically indispensable in the testing of otto and other essential oils, if its readings are intelligently interpreted and considered in conjunction with the other chemical and physical characteristics, but we have seen some of the largest buyers of otto depending entirely upon their 'nose" in selecting from a number of samples and declaring they could detect the presence of even 3 per cent. or 5 per cent of geranium in the otto. As an example of the fallacy of this method a leading buyer selected in our laboratory a sample of otto as pure which contained 10 per cent of geranium, in preference to a genuine otto that was entirely free from any adventitious matter. We are quite aware of the fact that otto produced in various districts of Bulgaria, etc., differs somewhat from the above in specific gravity, freezing point and rotatory power, although quite pure, but the differences are so slight that they are not likely to mislead any scientific chemist.

The extensive contracts placed by us for otto owing to the very large quantities used in "Vinolia" soaps, perfumes, etc., and which have partly contributed to the short supply on the general market and consequent advance of price during recent years, compel us to take every precaution that chemistry can suggest to enable us to obtain a genuine and pure otto, and although the present advanced price, even to the largest buyers, means an extra cost of some thousands of dollars on our annual output, yet we have found it to our material advantage to use only the very purest and absolutely genuine article. In the long run not only does adulterated otto fail to afford the same satisfaction, but the increased quantity it is necessary to use to obtain the same results as gained with the genuine article means an ultimate higher expenditure than if pure otto alone is used.

We have gone into this matter carefully and believe manufacturers will find, as we have, that, in buying the adulterated article at the lowest price offered for large contracts, the otto comes out far more expensive after allowing for the adulterants than would the pure article even at the present high price.

BLONDEAU & CIE.,
73–77 Watt Street,
New York, U. S. A.,
and Ryland Road,
London, N. W.

Trade Notes.

Against Fraud.

The Liebig's Extract of Meat Company, Limited, call attention, on page 17, to the distinguishing marks of the genuine extract, which consist of the signature of Justus Von Liebig, printed in blue, both on the labels and on the wrappers. Druggists are asked to aid the manufacturers by keeping the genuine article.

For the Cure of Obesity.

Druggists can add a profitable specialty to their list by laying in a stock of Dr. Edison's obesity preparations. These consist of Obesity Pills, Obesity Fruit Salt and Obesity Bands. Extensive advertising has been contracted for in the daily newspapers during the coming year, and the demand will be maintained by show cards and other means of display. A supply of show cards for display in windows can be obtained on application to Loring & Co., 2222 Hamilton place, Boston, Mass.

System in Business.

This cannot be followed by pharmacists at its best unless a "Boston Petty Ledger" is used in the filing of bills. The illustration on page 7 explains its operation. For a New Year purchase this cannot be surpassed, its small cost bringing it within the reach of all. Write to A. G. Moore & Co., 47 Court street, Boston, inclosing $3, and receive one by mail.

Beautiful Ceilings.

The new style of ceiling and wall of portable steel introduced by the Kinnear & Gager Co., of Columbus, Ohio, has much to recommend it to the notice of pharmacists, as indeed to all progressive merchants. It has no equal in either wood, plaster or metal, and is well adapted for use in all classes of buildings. We cannot do better than advise all who are contemplating a change in their store and fixtures to write to the Kinnear & Gager Co. for catalogue and prices. An illustration of a favorite design will be found on page 9.

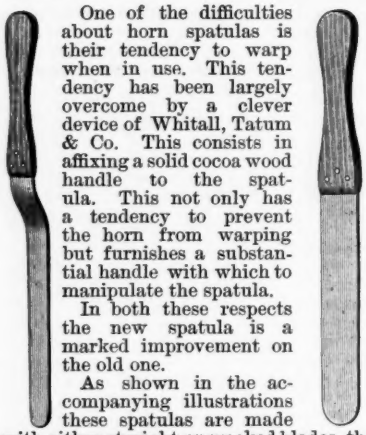
Rubber Water Bottles.

Those of our readers who are undecided as to where to purchase rubber water bottles are invited to scan the advertisement of Whitall, Tatum & Co. on page 8 of this issue.

Witch-hazel Jelly.

The witch-hazel preparations have attained wonderful popularity with the public, the mere name "witch-hazel" being sufficient in many instances to bring about a purchase of some liniment or embrocation having nothing further to recommend it. How well this operates in the case of a trustworthy article like the "Witch-hazel Jelly" of the Mayel-Hopp Co., Cleveland, O., is known to every druggist who handles it, and it is not surprising that the sales of this elegant preparation are rapidly increasing. Witch-hazel Jelly can be had from jobbers in collapsible tubes at $1.75 per dozen. A note to the manufacturers, the Mayel-Hopp Co., Cleveland, O., will bring a sample.

Dispensing Corrosive Substances.



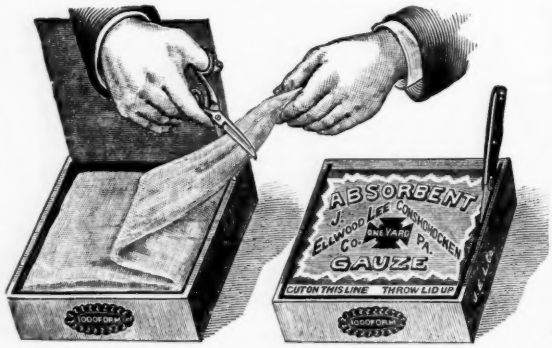
One of the difficulties about horn spatulas is their tendency to warp when in use. This tendency has been largely overcome by a clever device of Whitall, Tatum & Co. This consists in affixing a solid cocoa wood handle to the spatula. This not only has a tendency to prevent the horn from warping but furnishes a substantial handle with which to manipulate the spatula.

In both these respects the new spatula is a marked improvement on the old one.

As shown in the accompanying illustrations these spatulas are made with either straight or crooked blades, the latter being considered preferable by some dispensers.

Lee's New Air Tight Carton.

This new carton has become within a few weeks very popular as a container for gauze, many of the large hospitals adopting the container for the simple reason that a fresh package may be opened for every dressing of operation, and they being divided up into smaller packages there is nothing lost by waste. The gauze in the large packages, from frequent openings, exposures and handling for different cases and operation, soon deteriorate and become sour. This is the reason why operators do not have the same success when using up the latter part of a tub of gauze, or a large roll, that they do when the package is first opened and the fresh material is used.



LEE'S NEW AIR TIGHT CARTON.

In the manufacture of these little cartons the point is made that the gauze is first wrapped in waxed paper, and then placed in these cartons, and the opening cemented shut. This makes the package air-tight, but in order to make it doubly so the whole carton is plunged into a bath of melted paraffine, and not only once is this done but several times, until the carton has become completely glazed over with the wax.

The J. Ellwood Lee Co., who are introducing the new container, claim that the package is at once the least expensive and most practical of gauze packages, and announce that they will be pleased to mail a sample carton to any druggist or dealer who may apply for the same, as they are anxious to have the package seen in order to test its utility. The firm may be addressed at Conshohocken, Pa.

Cocaine "Boehringer."

The merits of Boehringer & Soehne's Hydrochlorate of Cocaine have been so well attested to by physicians and chemists of eminence as to render approbation on our part needless. Attention is here directed to the advertisement of the firm on page 10.

A Hint to Purchasers.

A valuable hint to intending purchasers of drug store fixtures, fine show cases, etc., is given by Pynn & Cameron, the well-known fixture men of Boston. They advise druggists to send to their address at 87 Haverhill street, Boston, for estimates and prices before closing contract. The hint should be acted upon; a postal card will do.

The Question of Quality.

The question of quality is of paramount importance when it comes to medicine. This is particularly true of capsules, for if a capsule be made poorly or of poor quality materials the capsule may dissolve slowly or not at all, thus retarding or altogether nullifying the action of the medicament contained in it. This is the feature which Dundas Dick & Co. have always borne in mind, and it is to this fact that the high reputation of their products is due. They also exercise the same care in the selection and compounding of the drugs which they put into their filled capsules.

The soft capsule which Mr. Dick was the first to make, and the name of which he copyrighted, offers peculiar advantages shared by no other capsule.

A Catalogue Will Explain

The different kinds of suspensory bandages made by the Ware Manufacturing Co., Camden, N. J., and druggists who are close buyers and interested in these articles will be rewarded by dropping a request for one by postal to the address given.

"Everything in Sundries"

Is how A. Ashfield Baker refers to his depot for the various specialties of the Norwich Pharmacal Co., Fels & Co. and numerous other manufacturers at 140 William street, New York. A mail order addressed to Mr. Baker for any new or old sundry not stocked by other houses will be promptly filled. He should be given a trial order.

Beef, Wine and Iron in Bulk.

This can be obtained best from Henry K. Wampole & Co., manufacturing pharmacists, 441 Green street, Philadelphia. Every information as to packages, price, and manner of packing will be gladly furnished on request to any one mentioning this paper. Attention is directed to their announcement on page 33.

Kefaline-Billroth.

The following scale of prices for kefaline-Billroth has been added to the monthly

Hard Times —and— Digestive Ferments

Money is Close
Business Dull
Workmen Unemployed
The Sequence

Low Prices

WE have met these conditions by making a general reduction in prices of Pepsin, Pancreatine, etc. A one-ounce bottle of Cudahy's "Rex" Brand Pepsin, 1-3000 U. S. P. 1890, Soluble, Non-Hygroscopic and free from Peptone, is now sold to the Trade for **60c.** Pancreatine at same price, Essences, Tablets, Glyceroles, etc., etc., at a corresponding reduction. Sold by Jobbers. Samples free.

The Cudahy Pharmaceutical Co.

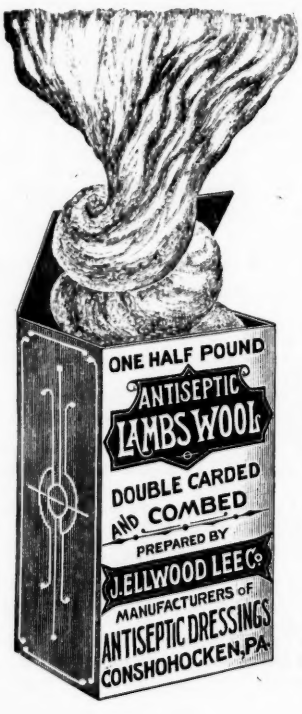
South Omaha, Neb.

NEW YORK BRANCH
57 North Moore St.

Our illustrated Booklet, from "Ranch to Table," a write up of the Cattle industry on the great plains, from the "Branding of the Maverick" to the "Round Up" of the prime steer into Cudahy's "Rex" Brand Extract of Beef, sent on request.

J. ELLWOOD LEE CO.,

Manufacturers and Exporters of



Levis Metallic Splints,
Absorbent Cotton,
Wool, Lint, Sponges,
Roller Bandages,
Antiseptic Gauzes,
and Dressings.

Surgeons' Silk, Cat Gut and Silk Worm Gut Ligatures, Clinical Thermometers, Needles, Hospital Supplies, etc.

CONSHOHOCKEN, PA.

The *World's Columbian Exposition* has given to this Company the five highest awards over all competitors as follows:

1st. **For Woven Flexible Catheters.**
2d. **For Surgeons' Silk and Ligatures.**
3d. **For Lee's Metallic Splints.**
4th. **For Antiseptic Gauze in lass Containers.**
5th. **For Gen'l Hospital Supplies.**

PHYSICIANS SAY "THERE IS NO INJECTION OF AIR WITH THE ALPHA AND THE OMEGA SYRINGES"

ADVANTAGES. ∴

The "ALPHA" and the "OMEGA" SYRINGES are perfectly simple in construction.

They have no more parts than the old style or ordinary Syringes.

They entirely obviate the intermittent, and in many cases, painful action of Pump Syringes.

They absolutely prevent the admission and consequent dangerous injection of air, so common with all intermittent or old style Syringes.

Unlike all Fountain, Rubber Bag or Pump Syringes the flow is not only continuous, but can be made either *gentle* or *strong* at the will of the user, the pressure of the thumb and forefinger being sufficient to produce a full stream.

The steady flow can be increased, lessened or stopped at will.

The continuous flow of the injecting fluid through the nozzle while the Syringe is in use *prevents the fecalized fluids from being drawn back into the rubber bulb and tube, which often happens in the use of intermittent Syringes, rendering them offensive.*

"Prices Current" of the special issues: 1 lb. cartons, per lb., $10.40; 10 lb. cartons, per lb., $8; tablet triturates, per 1,000, $8; vin de phosphate, per doz., $9.

Artificial Limbs.

The illustration given herewith is descriptive of an artificial limb designed and manufactured by Geo. R. Fuller, of Rochester, N. Y. Mr. Fuller also makes a specialty of the manufacture of crutches, trusses, elastic stockings, etc., and has a reputation for turning out thoroughly first-class goods at extremely low prices. We are aware that our readers are frequently asked by some unfortunate person who has suffered the loss of a leg or arm for the address of a trustworthy manufacturer of artificial limbs, and a note should be made of Mr. Fuller's address. He can be confidently recommended for this class of work. Information as to terms, etc., can be obtained by addressing him at Rochester, N. Y.

Worthy of Attention.

Druggists who have not yet seen the 1894 catalogue of Hagerty Brothers & Co., which is a well bound book of handsome appearance containing many hundred illustrations of specialties in glassware and druggists' sundries, should write immediately to the publishers, Hagerty Brothers & Co., 10 Platt street, New York, who will gladly furnish a copy to any druggist mentioning this paper.

New York & Chicago Chemical Co.

H. L. Ford, who for the past eight years has had charge of the business affairs of the New York & Chicago Chemical Co., has severed his connection with it in order to devote his attention to his private interests.

He is succeeded by Arthur S. Winslow, who has been Mr. Ford's assistant for nearly five years past, and who is thoroughly familiar with the pepsin business in all its details.

Mr. Winslow's many friends will be pleased to hear of his advancement.

The New York & Chicago Chemical Co. is now, as ever, in the front rank among manufacturers of digestive ferments, and under the management of Mr. Winslow will maintain its past record for offering the best goods at fair prices.

The H. L. Ford Co.

H. L. Ford, late business manager of the New York & Chicago Chemical Company, is now in charge of the affairs of the H. L. Ford Co., of New York, who are offering a new specific for dyspepsia, under the name of Ford's Pastilles.

These goods are being extensively advertised in the secular press and are already in large demand.

Mr. Ford's long experience in the manufacture of digestive ferments is a sufficient guarantee as to the high standard of the new preparation.

Helping Him Along.

A traveling salesman for a Detroit drug house was standing on the step of a little notion store kept by a colored woman in a town in Arkansas when she came out and queried:

"Was yo' a stranger around here, sah?"

"I represent this house," replied the drummer, as he handed out a card.

"I see. Does yo' own de bizness yo'self?"

"Oh, no."

"Was yo' de senior pawdner?"

"No."

"De junior?"

"No."

"Was yo' backin' de concern wid yo' capital?"

"No."

"Jist sent out to take orders?"

"That's all. Perhaps I can take an order from you?"

"Well, sah, if dat house has dun sent yo' clean down yere to git an order from me I ain't gwine ter be mean about it. Put me down for two bits worf of peppermint essence and drap in yere at de end of sixty days fur yo'r money!"—*Detroit Free Press.*

Hard Times and Digestive Ferments.

Money is close; business dull; workmen unemployed; the sequence is low prices. The Cudahy Pharmaceutical Co. have met these conditions by making a general reduction in prices of pepsin, pancreatine, etc. A one ounce bottle of Cudahy's Rex Brand Pepsin, 1-3000 U. S. P. 1890, soluble, non-hygroscopic and free from peptone, is now sold to the trade for 60c. Pancreatine at same price, essences, tablets, glyceroles, etc., etc., at a corresponding reduction. Samples will be sent free by The Cudahy Pharmaceutical Co., South Omaha, Neb., or by the New York branch, 57 North Moore street, if THE DRUGGIST AND RECORD is mentioned when writing. Their illustrated booklet, from "Ranch to Table," a write-up of the cattle industry on the great plains, from the "Branding of the Maverick" to the "Round Up" of the prime steer into Cudahy's Rex Brand Extract of Beef, will also be sent on request.

Review of the Wholesale Market.

NEW YORK, January 24, 1894.

It should be understood that the prices quoted in this report are strictly those current in the wholesale market, and that higher prices are paid for retail lots. The quality of goods frequently necessitates a wide range of prices.

The trade in drugs, dyestuffs and chemicals is progressing moderately, a fair seasonable demand being experienced in the several departments. Buyers are operating with caution, however, and there appears to be no special consideration extended to any one article, the trade being apparently content to cover current wants without exhibiting any interest of a speculative character. During the week about the usual number of price changes have occurred, though in most instances they have been in favor of sellers.

ALCOHOL is in fair steady demand with $2.24 @ $2.28 asked for grain as to quantity, less the usual rebate. Wood is passing out freely at 90c. for 95 per cent., 95c. for 97 per cent. with a discount of 2½ per cent. on 5 bbls. or more when taken in one lot.

ARNICA FLOWERS continue inquired for, with sales of prime goods at 11c.

BALSAM COPAIBA is slightly firmer, the quotations for Central American and Para now standing 35½ @ 40c.

BALSAM FIR, Canada, is in fair jobbing demand and firm at $3.75 @ $4. Oregon quoted 80 @ 85c. as to quantity.

BALSAM PERU is passing out freely into channels of consumption, though holders are firm at $1.40 @ $1.60 according to quality.

BALSAM TOLU is in moderate request at 25 @ 27c.

BARKS.—Buckthorn is offered sparingly and held at 7½ @ 9c. Cascara is easier at 4¼ @ 5c.; prices are irregular. Soap is developing a firmer tendency, though it can yet be purchased at 3¼ @ 3½c.

BUCHU LEAVES, short, are in good demand, with full package lots bringing 12c.

CACAO BUTTER is in good demand, but the market appears destitute of stock. The limited quantity available is held at the full previous range of 32½ @ 33c.

CANTHARIDES are in better jobbing request, but quotations are nominally unchanged.

CASSIA BUDS are inquired for and numerous small sales are reported at 18½c.

CASTOR OIL has sold liberally at the quoted range.

CHAMOMILE FLOWERS, German, have received attention during the week and among other transactions we note one sale of 500 pounds at 18¾c.

COD LIVER OIL, Norwegian, continues in good jobbing demand with sales at the range of $19.50 @ $22 as to brand.

CUBEB BERRIES are in better demand and firmer at the quoted range. Ordinary are yet held at 16 @ 18c., SS at 21 @ 23c. and Powdered 20 @ 30c.

CUTTLE BONE continues in fair request and steady at 11 @ 11½c. for Trieste.

ERGOT appears to be attracting increased attention, but values are practically unchanged, good grades of German being quoted 25 @ 28c., and Spanish 28 @ 32c.

JABORANDI LEAVES are offering with greater freedom, but the fact that stock of an undeniable kind is offered in many instances is an obstacle to trade. We quote the range at 20 @ 25c.

LYCOPODIUM is in good jobbing demand at 56 @ 58c. for Politz.

MANNA continues inactive with 82 @ 83c. quoted nominally for large flake, and 34 @ 35c. for small; sorts are held at 27 @ 28c.

MORPHINE continues in active consumptive demand at the quoted range.

OPIUM has developed no movement of importance, the distribution being lighter and the market less firm than during the week previous. Single cases are still quoted $2.35, though it is thought by some dealers that $2.30 would purchase. For jobbing quantities $2.35 @ $2.40 is asked, and a moderate distribution is reported at these figures. Powdered is unchanged at $3.10 @ $3 15.

QUININE is in better demand since the appreciation in prices, and the position of the article is firm with prices upon the basis of 21½ @ 22c. cash and regular for foreign brands, 22½c. from manufacturers and 25c. for domestic in quantities exceeding 1,000 ounces.

SENNA continues moderately active in a jobbing way with, however, no quotable change in price.

TONKA BEANS.—Angostura are in improved demand, and firm with the jobbing quotation at $1.80 @ $2 as to quantity.

VANILLA BEANS, cut, are in limited supply, and held at $4.50 @ $6.

DYESTUFFS.

CUTCH has advanced to 5 @ 5¼c. for SM ex-store, and sales at the inside range are reported.

DIVI DIVI is firm with a fair jobbing trade at $60 @ $65 for prime, according to quantity.

GAMBIER is selling with some freedom in jobbing quantities at the range of 4¼ @ 4½c. In a large way 4 1/8c. is the lowest price named.

SUMAC.—Sicily is steadily held at $75 @ $80 with small sales reported at this range.

CHEMICALS.

ACETATE OF LIME is held at full previous prices with a moderate demand experienced for both Brown and Gray.

ARSENIC, white, is in good inquiry, but prices are firm owing to dearth of material. We quote the range from 3½ @ 3⅞c. as to quantity.

BLEACHING POWDER, German, is firmer, 2¼c. being now generally required, while English is yet obtainable in small quantities at 2½c.

BLUE VITRIOL does not vary from 3⅜ @ 3½c. with numerous sales at this range.

BRIMSTONE marks a quiet market; crude seconds are scarce and held at $19.50 @ $20, otherwise there is no new feature of interest to report.

CAUSTIC SODA continues in steady fair demand with small sales of 70 per cent. at $2.80.

CHLORATE OF POTASH is in somewhat better demand, though prices are maintained at the previous range of 14¾ @ 15c. for crystals and 15 @ 15¼c. for powdered.

CITRIC ACID is quiet, but without offering any below manufacturers' prices. Barrels quoted 43½ and kegs 44c.

CREAM TARTAR continues dull with values unchanged, 17½ and 18c. being still quoted for crystals and powdered respectively.

NITRATE OF SODA continues firm at the recent advance and nothing offers under $1.95.

SAL AMMONIAC, White Grain, is improving in tone and 6½ @ 6¾c. is now quoted generally.

QUICKSILVER meets with a moderate sale at the range of 45 @ 46c.

SULPHURIC and TARTARIC ACIDS are without important change; a moderate business is reported at quotations.

ESSENTIAL OILS.

ANISE is strengthening in tone and $1.45 @ $1.50 is now required generally.

BERGAMOT is steadily held at the quoted range.

CAJEPUT is quiet, without, however, quotable change in price.

CLOVE is developing a firmer feeling and has been advanced by a number of dealers to 52½ @ 53c. for large quantities.

CUBEB is dull and weak and is obtainable in instances down to $1.70, though the quoted range is a trifle higher.

ORANGE is reported firmer in some quarters, but prices have as yet undergone no change.

PEPPERMINT is exceedingly dull and the market is regarded as weak. Bulk is offered at about $2.50 @ $2.55 and HGH is offering at $2.95 @ $3.

GUMS.

ALOES, Curacao, are passing out freely to consumers at the quoted range.

ASAFŒTIDA is in fair jobbing request and firm at full previous values. There is a scarcity of the better grades of stock; sales of common grades at 15c.

CAMPHOR is without important change either as regards demand or price. The same may be said of chicle which continues to offer at 28½ @ 30c.

SENEGAL is reported in better demand, though the quotations of the market remain unchanged.

SHELLAC appears to be in better request, several large sales having been reported during the week.

TRAGACANTH is in limited demand, but firm at full previous values.

ROOTS.

ALKANET has been in demand in the interval and among other transactions were note a sale of 2,000 pounds at 6c.

IPECAC is maintained steadily at $1.25 @ $1.40 as to quality, though there is momentarily little or nothing doing.

JALAP continues very dull, though the quotations of the market do not vary from 25 @ 28c.

LOVAGE, prime grade, is now offering at 30c. in a quantity way; jobbing parcels are changing hands at 32c.

SARSAPARILLA, Mexican, is without new feature of interest, the market being easy at the quoted range.

SENEGAL continues very dull, but there is seemingly no urgency to realize below the point of 39 @ 40c. for either Manitoba or Minnesota.

SEEDS.

CANARY, Smyrna, is in limited demand and held at 2⅝ @ 2¾c. for jobbing parcels.

CARAWAY, Dutch, has advanced a point and is now held at 6¾ @ 7c.

CELERY is in moderate request with sales at 16c.

FENUGREEK does not offer below 3¾c., with the market firm at this quotation.

HEMP, Russian, is easier and sales are making at 3 @ 3⅛c.

MUSTARD, California yellow, is in steady, moderate request, and the market is quoted firm at full previous prices.

Druggists' Exchange.

Suitable notices of moderate length under this heading inserted one time free; for each additional insertion Fifty Cents. Write distinctly, on one side of paper only, and do not use postal cards.

POSITIONS VACANT.

DRUG CLERK WANTED in a pleasant town in New Jersey; must be reliable in every respect and capable of handling nice trade. Address "Salol," care Tarrant & Co., 280 Greenwich street, New York.

DRUGGIST SALESMEN WANTED to carry side line of toilet articles; big money; please state which house now employed with. For further information address the Orisena Co., 209 State street, Schenectady, N. Y.—4.

POSITIONS WANTED.

SITUATION WANTED by an Ontario drug clerk, 11 years' experience, 6 in retail, 5 in wholesale; excellent references. Address C. E. Burdick, Essex, Ont.

SITUATION WANTED—Pharmacist; registered in Illinois; no bad habits; good references; moderate salary. Address "Drug Clerk," 404 E. Grove street, Bloomington, Ill.

GERMAN DRUG CLERK, graduate, desires steady situation; 14 years' experience; registered in four States; 27 years old; single. Address "Graduate," 584 Lake street, Cleveland, Ohio.

SITUATION WANTED as drug clerk by a young man 23 years of age, with four years' experience, and junior graduate of the Ontario College of Pharmacy; best physicians' and other references; apply to O. O. Hammill, Sheffield, Ont., Canada.

SALESMAN wishes to introduce other goods with his own line to druggists. Address "Salesman," 257 Broome street, New York.

DRUG CLERK, registered in Virginia, over 10 years' practical experience, steady and sober habits, desires position in manufacturing department wholesale house, or assistant in large retail house; references AI. Address "Druggist," corner Duke and Alfred streets, Alexandria, Va.

WANTED, SITUATION.—A practical and competent pharmacist, first-class worker, neat, sober and reliable, registered in Connecticut; best references. Address "C. A. P.," this office.

DRUG CLERK, with 4 years' experience, desires a position in Connecticut; "unlicensed;" salary $10. Address "Listeum," Waterbury, Conn.

SITUATION WANTED by a young man to learn the drug business; graduated from college last June and received a degree as chemist; suitable references can be given. Address F. A. Gokey, Northfield, Vt.

BUSINESS OPPORTUNITIES.

DRUG STORE for rent, recently vacated by a successful druggist who has been there for five years; long lease, low rent. Brick building, 25 feet plate glass front. Address "Fine Chance," this office.

FOR SALE—In New York City, on car line, at less than inventory, a corner drug store, near Canal street, established over 35 years; 5 years' lease; new stock, fixtures and fountain recently; a bargain. M. HOYT, 216 West 22d street, N. Y. City.

TO DISSOLVE PARTNERSHIP.—A first-class drug store is offered for sale in a growing city. For particulars address P. O. Box 1315, Meriden, Conn.—4.

FOR SALE—A first class drug store in a town of 1,600 inhabitants, with railroad shops; from six to eight thousand dollars paid out monthly by Railroad Co.; first class trade; no credit; average daily sales, $25; stock invoice about $2,000; reason for selling is age and health; apply soon. D. W. Strouse, Monon, White Co., Indiana.

FOR SALE.—Old established drug store, in Pennington, N. J.; live stand; no other drug store nearer than five miles; stock, drugs and stationery; seminary town; opportunity for a cash buyer; owner studying medicine. Geo. W. Scarborough, Jr., Pennington, N. J.—2.

FOR SALE.—Drug store, one of the handsomest and best paying drug stores in Pennsylvania; last year's sales $13,000; no cutting in prices; will invoice about $3,500; good reason for selling. Address "Salol," this office.

FOR SALE.—Handsome ash soda counter (7 feet with slab and copper sink, complete; cost to build $45; good as new. Photo and particulars of H. J. Baringer, Jr., Chatham, N. Y.

FOR SALE.—Handsome drug store in growing town; splendid opportunity for young man with knowledge of the business; no cutting. Address P. O. Box 243, Albany N. Y.

KIDDER'S PASTILLES. A Sure relief for Asthma. Price 35 cts. by mail. STOWELL & CO. Charlestown, Mass.

KIDDER'S PASTILLES. A Sure relief for Asthma. Price 35 cts. by mail. STOWELL & CO. Charlestown, Mass.

Monograph on Flavoring Extracts.

"YE CHIMEST," he of olden time
Would fain have bought this book,
But for the fact he did not know
Which way for it to look.

Now this excuse you may not have,
If you will read this through;
And also great wealth you may save,
If you'll do as we say do.

Just send two dollars straight to us,
And by return express or mail,
You'll get without the slightest fuss,
The book that will this wealth entail

Published by Harrop & Co., Col.

U. S. STANDARD
"DIAMETER" CORK MEASURE.

49 DEY ST. N. Y.

Send for Samples and Price List with Discounts to

J. B. COLGAN,

Importer and Manufacturer of Corks.

49 DEY ST. N. Y.

ORIGINAL PACKAGE PRICES.

It should be understood that the prices quoted in this column are strictly those current in the wholesale market, and that higher prices are paid for retail lots. The quality of goods frequently necessitates a considerable range of prices.

Drugs, Chemicals, &c.

Acetanilid, bulk, per lb.	.32½	@	.34
" lbs...per lb.	...	@	.58
" ozs.. per oz.	...	@	.06¾
Acetate of lime:			
Brown, per 100 lb....	.90	@	.95
Gray, per lb.....	.01¾	@	.01⅞
Acids:			
Acetic Com'l, pr lb..	.01¾	@	.02
Aquafortis, 36 deg...	.03¼	@	.03½
" 40 " ...	.03¾	@	.04¼
Benzoic, German....	.50	@	.55
" English....	.09	@	.09½
Boracic, Whole.....	.12½	@	.12¾
" Powdered..	.13	@	.13½
Citric, American.....	.43½	@	.44
" English.....	.43	@	...
Carbolic Crystals,...			
bulk.....	.14½	@	.16
lb. bottle.....	.19	@	.21
Muriatic, 18@22 deg.	.90	@	1.37½
Nitric, 38 degrees....	.03¼	@	.04¾
" 40 "	.04	@	.04¾
Oxalic, English.....	.07¾	@	.07½
" German.....	.07	@	.07¼
Picric.....	.23	@	.30
Salicylic.....	1.12	@	1.22
Sulphuric.....	...	@	1.25
Tartaric, Crystals...	.22	@	...
" Powdered.	.22½	@	...
Tannic.....	1.05	@	1.20
Alcohol, Grain, per gal.	2.24	@	2.28
(Less rebate.)			
Wood, 95@97%.....	.90	@	.95
Alcholene.....	...	@	1.50
Aloin, per lb.....	1.00	@	1.10
Alum, Lump, per 100 lb.	...	@	1.75
Ground, per 100 lb...	...	@	1.80
Antifebrine per oz....	.19	@	.20
Antipyrine, per oz....	1.20	@	1.40
Arrow root, Berm., lb..	.24	@	.25
St. Vincent, in bbl., lb.	.11	@	...
Arsenic:			
Red Saxon, lb.....	.06	@	.06¼
White.....	.03½	@	.03¾
Balsam, Copaiba, lb...	.35½	@	.40
Fir, Canada, gal.. ..	3.75	@	...
Fir, Oregon, gal.....	.80	@	.85
Peru, lb.....	1.35	@	1.50
Tolu, lb.....	.26	@	.27
Bark, Buckthorn, per lb.	.07½	@	.09
Cascara Sagrada, lb.	.04¼	@	.05
Elm, lb.....	.10½	@	.11
Orange peel.....	.06	@	.07
Sassafras, per lb.....	.06½	@	.07
Soap, lb.....	.04¼	@	.04½
Bicarb. Soda, Engl., lb.	.03¾	@	.03½
domestic, lb.....	3.00	@	3.15
Bichromate, Pot'h, lb.	.10½	@	.11
Bismuth, Sub. Nit., per lb., bulk.....	1.95	@	2.00
Bismuth, Sub. Carb., per. lb., bulk.....	2.25	@	2.30
Bleach'g Powd., per lb.	.02	@	.02¾
Blue Vitriol, lb.....	.03¾	@	.03½
Borax, refined, lb.....	.07½	@	.08½
Concentrated, lb.....	.07¾	@	.08
Brimstone, best ad, ton	19.50	@	20.00
Bromide Potash, Domestic, b'lk, lb.....	.37	@	.38
bottles, lb.....	.45	@	.46
Bromide Ammonium, bulk.....	.45	@	.46
Bromide Sodium, b'lk..	.42	@	.43
Bromine, bulk.....	.43	@	.45
Burgundy pitch, per lb.	.02½	@	.02¾
Cacao Butter:			
12-lb. boxes, lb.....	.32½	@	.34
Dutch A., per lb.....	.33½	@	.34½
Caffeine.....	2.40	@	2.50
Camphor, refi'd., bbls., lb	.45	@	...
cases, lb.....	.46	@	.48
Cantharides, Chinese, lb.	.28	@	.30
Russian, lb.....	.70	@	.75
Carb. Ammonia, casks, lb.....	.08	@	.08½
Cassia Buds, lb.....	.18½	@	.19
Castor Oil, cases, lb....	.15	@	.15½
Barrels, lb.....	.14½	@	.15
Caustic Soda, as to test	2.85	@	3.25
Chalk, Engl. Precip., bulk, lb.....	.04	@	.06
Chloral Hydrate Crystals, bulk, per lb...	.95	@	1.10
Hydrate crusts, bulk, per lb.....	.90	@	1.05
Chlorate Pot. Crys., lb.	.14½	@	15
Pow'd, lb.....	.15	@	.15½
Chloroform, Bulk, lb...	.50	@	.55
Cinchonidine, Sulphate of, German, oz.....	.02½	@	...
Citrates, U. S. P. Iron, lb.	...	@	.59
Soluble.....	...	@	.55
Iron and Ammonia, lb.	...	@	.50
Iron and quinine.....	1.50	@	1.55
Iron and strychnine.	2.00	@	2.05
Phosphate, U. S. P. lb.	...	@	.57
Pyrophos, U. S. P., lb.	...	@	.55
Pyrophos, Soluble, lb.	...	@	.55
Citrates, Potash, per lb.	...	@	.49
Soda, per lb.....	...	@	.48
Cobalt, pow'd, lb.....	.10	@	.18
ocaine Muriate, per oz.	4.75	@	4.95
Codeine, bulk, oz.....	4.15	@	...
Codeine, eights.....	4.65	@	...
Cod Liver Oil, Norwegian, bbls.....	19.25	@	22.00
Colocynth:			
Trieste, lb.....	.27	@	.38
Spanish.....	.20	@	.24
Copperas, per 100 lb....	.50	@	.80
Cr. Tartar, Crystals, lb	.18	@	.18¾
Powdered, lb.....	.18½	@	.18¾
Cubeb Berries Z.K., lb.	.19½	@	.22
Ordinary, lb.....	.17½	@	.18
Cutch, bales, SM, lb ..	.05	@	.05½
Cutch, boxes lb.....	...	@	.09
Cuttle bone, Trieste, lb	.11	@	.11½
Jewelers' lb.....	.35	@	...
Dextrine.....	.04½	@	.05
Divi Divi, per ton.....	60.00	@	65.00
Dragon's Bl'd, lump, lb	...	@	...
In reeds, lb.....	.45	@	.50
Epsom Salts, per 100 lb.	1.10	@	1.20
Ergot:			
G'm'n and Russ'n, lb	.25	@	.28
Spanish, lb.....	.28	@	.32
Ergotine, Domestic...	...	@	4.00
German.....	4.00	@	...
Flowers:			
Arnica Flowers, per lb	.10½	@	.11
Chamomile.			
German, New, lb..	.18¾	@	.24
Roman, New.....	.10	@	.18
Roman, lb., old....	12	@	.20
Lavender, Ordinary, per lb.	.04	@	.08
Select, per lb.....	.15	@	.65
Gambier, lb.....	.04½	@	.04⅝
Glycerin, bbls, lb	...	@	.13½
" cases, lb....	.14	@	.16
Grains, Paradise, lb...	.06½	@	.07
Guarana, lb.....	.95	@	1.00
Gums:			
Aloes, Barb, lb.....	.10	@	.12
" Cape, lb.....	.06	@	.06½
" Curacao, lb...	.02¾	@	.03
" Socotrine, lb.	.28	@	.34
Arabic 1st picked....	.47½	@	.52½
" 2d "	.34	@	.36
Arabic, sorts.....	.11½	@	.12½
Asafœtida, lb.....	.20	@	.30
Benzoin, lb.....	.35	@	.40
Chicle, lb.....	.28½	@	.30
Gamboge, lb.....	.53	@	.54
Guaiac, lb.....	.15	@	.20
Kino, lb.....	.85	@	...
Mastic, lb.....	.62½	@	.65
Myrrh, lb.....	.23	@	.28
Sandrac, lb.....	.29	@	.30
Senegal, picked, lb..	.12	@	.20
" sorts, lb....	.09	@	.09½
Shellac, DC, lb.....	.34	@	...
" VSO, lb....	.32	@	...
" Diam'd I, lb ...	...	@	.27
" SS, lb	.30	@	...
" TN, lb	.26	@	...
" Garnet.	.24	@	.25
" Bleached, lb	.30	@	.35
Tragacanth, Aleppo, lb.	.30	@	.60
" Turkey..	.48	@	.80
Indigo, lb.....	.45	@	1.65
Insect Flowers.....	.19	@	.20
Insect Powder, pure, lb.	.16	@	.20
Iodide Potash, bulk, lb.	2.75	@	2.80
" " bot's, lb.	2.83	@	2.88
Isinglass, Am'r'n, lb..	.47½	@	.60
Japan, lb.....	.35	@	..
Juniper Berries, lb.....	.02½	@	.03
Leaves:			
Belladonna, per ..lb	.09½	@	.11
Buchu, short, lb....	.12	@	.14
" long, lb....	.25	@	...
Coca, prime, lb.....	.14	@	.32
Damiana, lb.....	.13	@	.16
Hyoscyamus.....	.07	@	.08¼
Iaborandi, lb.....	.20	@	. 25
Rose, red, lb.....	.53	@	.54
Senna Alex natr'l, lb.	.06½	@	.08
Senna Tinney, lb....	.06	@	.07
Stramonium.....	.05½	@	.08
Licorice, M. & R., lb..	.24	@	...
Lupulin, German.....	.45	@	1.75
Lycopodium, lb.....	.58	@	.59
Manna, large flake, lb.	.82	@	.83
Small flake, lb.....	.34	@	.35
Menthol, Japanese,....	5.50	@	6.00
Mercurials:			
Blue Pill, lb.....	.32	@	.34
Calomel, lb.....	.71	@	...
Cor. Sublimate, lb..	.62	@	...
Mercury and Chalk.	.30	@	...
Ointment, lb.....	.28	@	.39
Red Precipitate, lb.	.81	@	...
White " lb.	.86	@	...
Morphine, bulk, oz....	1.90	@	2.05
Eights, oz.....	2.25	@	2.30
Moss, Irish, lb.....	.06	@	.06½
Irish, bleached, lb....	.13	@	.15
Muriate Potash, per 100 lbs.....	1.78	@	1.85
Naphthaline, flake, per lb.....	.03½	@	...
Naphthaline, Ball, per lb.....	...	@	.04½
Nitrate Silver, oz.....	.45½	@	.47
Nitrate Soda, 100 lb	1.82½	@	1.85
Nux Vomica, lb.....	.03¾	@	.04
Nutgalls, China, per lb.	.13	@	.13½
Aleppo, per lb.....	.14	@	.14½
Oils, Essential:			
Anise.....	1.45	@	1.50
Almonds, Bitter....	4.50	@	7.50
" Sweet.....	.20	@	.40
Bay, per lb.....	4.00	@	....
Bergamot	1.50	@	2.40
Cajeput, Native.....	.45	@	.55
Camphor	.07	@	.08
Cassia.....	.85	@	.90
Citronella, Native..	.27	@	.65
Clove.....	.52	@	.60
Copaiba.....	.70	@	.80
Croton.....	.80	@	.85
Cubeb.....	1.80	@	2.00
Geranium.....	4.00	@	7.50
Lavender.....	.40	@	2.25
" Garden.....	.40	@	.90
Lemon, as to brand..	.75	@	1.50
Lemongrass.....	.80	@	.85
Musk, per lb.....	7.00	@	8.00
Myrbane.....	.18	@	.19½
Neroli.....	25.00	@	35.00
Nutmeg	1.80	@	2.75
Orange, sweet.....	1.25	@	1.60
Orange, bitter.....	3.25	@	4.00
Origanum	.24	@	....
Pennyroyal.....	1.00	@	1.25
Peppermint, bulk....	2.45	@	2.60
" HGH..	2.95	@	3.00
Rose.....	8.00	@	9.00
Sandalwood.....	...	@	2.85
Sassafras.....	.36	@	.40
Sassafras, Artificial..	...	@	.25
Spearmint.....	1.60	@	1.80
Tansy	2.50	@	3.00
Wintergreen.....	1.55½	@	1.60
" Artificial.	.90	@	....
Wormwood.....	2.15	@	2.25
Opium, Natur'l, cs., per lb.....	2.30	@	2.35
Opium, Ordinary, Jobbing, per lb.....	2.30	@	2.40
Opium, Powd., per lb..	3.10	@	3.15
Phenacetine, per oz...	.85	@	1.00
Prussiate Potash, Yellow, per lb.....	.22	@	.23
Red, per lb.....	.39	@	.42
Quicksilver, flasks, per lb.....	.45	@	.46
Quinine:			
Domestic, bulk, oz...	.22½	@	.25
Domestic, ozs.....	.30	@	.35
German, bulk.....	.22	@	.22½
German, ozs.....	.27½	@	.29
Roots, Aconite, lb.....	.11½	@	.12
Althea, cut, lb.....	.16	@	.18
Alkanet, lb.....	.06¾	@	.07
Arnica, lb.....	.12	@	.13
Belladonna Ger., lb.	.09	@	.12
Blood, lb.....	.05	@	.06
Calamus, lb.....	.07½	@	.08
Calamus, bleac'd, lb.	.25	@	.26
Colchicum, per lb....	.14	@	.18
Colombo, lb.....	.08	@	.11
Dandelion, Germ. lb.	.08	@	.09
Dogwood, lb.....	.08	@	.10
Galangal, lb.....	.05½	@	.06
Gentian, lb.....	.04	@	...
Ginseng, lb.....	1.75	@	3.00
Ginger, Jamaica, blcd., lb.....	.17½	@	.18
Ginger, Jamaica, unblch., lb.....	.15	@	.16
Golden Seal, lb.....	.23	@	.24
Hellebore, powd., lb.	.08	@	...
Ipecac, lb.....	1.37½	@	1.50
Jalap, lb.....	.27½	@	.30
Kava Kava, lb.....	.18	@	.20
Licorice, select, lb....	.07	@	.15
" Pc w'd., lb.	.17	@	.18
Lovage, lb.....	.35	@	.40
Mandrake, lb.....	.04	@	.06
Orris, Florentine, lb.	.25	@	.30
Orris, Verona.....	.13	@	.22
Pink, lb.....	.24	@	...
Rhubarb, whole, lb..	.30	@	.80
Sarsaparilla, Hond. lb.	.30	@	.40
Sarsaparilla, Mex., lb.	.10	@	.10½
Senega, lb...	.39	@	.42
Serpentaria, lb.....	.30	@	.35
Valerian, Belgian, lb.	.07	@	.07½
" German, lb.	.10	@	.12
Saffron, Amn., lb.....	.40	@	.42
Spanish, Valencia, lb.	5.40	@	6.00
Spanish, Alicante, lb.	....	@	4.50
Sal Ammoniac, lump, lb.	.09¼	@	...
Do., Granulated, lb....	.09	@	.10
Sal Soda, Eng., 100 lb..	1.00	@	1.05
" American...	.90	@	.95
Saltpeter, crude, per lb.	.03¾	@	.04
Saltpeter, Refined, per lb.....	.06	@	.08
Seeds, Anise, Ital., lb..	.10½	@	.11
Seeds, Anise, German lb.	.06	@	.06¼
Anise, Star, lb.....	.20	@	....
Canary, Smyrna, lb.	.02½	@	.02¾
Canary, Sicily, lb	.02¾	@	.03
Caraway, lb.....	.06¾	@	.07
Cardamom, ...			
Aleppy, per lb....	.65	@	.80
Cardamon, Malabar, per lb.....	.75	@	.90
Celery, lb	16	@	.17
Colchicum, lb.....	.12½	@	.13
Coriander, lb.....	.05¾	@	.06
Cummin, lb.....	.10	@	.11
Fennel, Germ., lb....	...	@	.12
Flax Meal, per lb.....	...	@	.02
Fœnugreek, lb.....	.03¾	@	...
Hemp, Russian, lb..	...	@	...
Mustard, yel. Cal. lb.	.04	@	.04¼
Mustard, brown, Cal. lb.....	.03½	@	.04¾
Poppy, per lb.....	.09	@	.10
Quince, German, lb..	.25	@	.35
Rape, German, lb....	.03¾	@	.03½
Rape, English, lb....	.05½	@	.06
Soap, Castile, Mars, mottled, pure, lb..	.06	@	.06¾
White, lb.....	.10	@	.10½
Soda Ash, lb., 48% per 100 lb.....	1.55	@	1.80
Squills, white, lb.....	.04½	@	.06
Sugar Milk, powd., lb..	.10½	@	.18
Sugar Lead, white, lb.	.11	@	.11¾
" Lead, brown, lb.	.05¾	@	.06
Sulphate Ammonia, per 100 lb.....	2.90	@	3.00
Do. Potash, 48% per lb.....	1.11½	@	1.15
Do., Potash, 90% per lb.....	2.10	@	2.15
Sulphur, Roll.....	...	@	.01½
" Flour.....	...	@	.01½
Spirits Nitre, U. S. P..	.39	@	.40
Spirit Ammonia, Arom.	.44	@	.45
Sulphuric Ether.....	.54	@	.61
Sumac, Sicily, ton.....	75.00	@	80.00
" Virginia.....	47.50	@	49.00
Tar Barbadoes, gal....	....	@	.45
Tin Crystals, bbls., per lb.....	.13¼	@	...
Jars, per lb.....	.15¾	@	...
Tonka Beans, Angost., lb.....	1.70	@	1.85
Tonka Beans, Para, lb.	.45	@	.60
" Angostura	1.85	@	1.90
Turpentine, Spirits....	.30	@	.30¼
Vanilla Beans, lb.....	6.00	@	13.00
" cut, lb.....	4.50	@	6.00
Venice Turpentine, barrels, lb.....	.18	@	.19
Cans, lb.....	.19	@	.20
Wax, Brazil, Veg., lb..	...	@	.23
Japan, lb.....	.08	@	.08¼
Zinc Oxide.....	.30	@	.48

Animal and Vegetable Oils.

Linseed, raw, gal.....	...	@	.47
boiled, gal.....	...	@	.51
Lard, City, Prime, present make, gal.....	.70	@	.72
City, Extra No. 1, gal	...	@	.53
City, No. 1, gal.....	...	@	.45
West, prime. gal....	.70	@	...
Cotton-seed, Prime, Crude, gal.....	.31	@	.32
Summer Yellow, prime, gal.....	.36	@	.37
Summer Yellow, off grades.... ..	34	@	.35
Winter Yellow, gal..	.40	@	.42
Prime White, gal....	.39	@	.40
Sperm, Crude, gal.....	.65	@	.67
Natural Spring gal..	.66	@	.68
Bleached Spring gal.	.71	@	.73
Natural Winter, gal.	.71	@	.73
Bleached Winter, gal	.76	@	.78
Whale, Natural Winter, gal.....	.44	@	.45
Bleached Winter, gal.	.47	@	.48
Ex. Bl'ch'd, gal.....	.48	@	.50
Menhaden, Crude, Sound, gal.....	.32	@	.33
Dark, pressed, gal...	.34	@	.35
Light, pressed, gal..	.36	@	.38
Bleached, Winter, gal.	.41	@	.42
Extra Bleached, gal.	.44	@	...
Tallow, City, prime gal.	.48	@	.50
Cocoanut, Ceylon, lb..	.05½	@	.05¾
Cochin, lb.....	...	@	.06¾
Cod, Domestic, gal....	.38	@	.40
Foreign, gal.....	.42	@	.45
Red Elaine, gal.....	.39	@	.40
Saponified, lb.....	.05	@	.05¼
Bank, gal.....	.35	@	...
Straits, gal.....	.36	@	...
Olive oil, table, in tins	1.50	@	1.85
Com'n, bbls., gal....	.58	@	.62
Neatsfoot, prime, gal..	.60	@	63
Palm, prime Lagos, lb.	.06	@	.06½